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ON
INDIA

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IN MEMORIAM

MAX MÜLLER

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PREFACE

In publishing the second volume of "GERMAN SCHOLARS ON INDIA" which, like its predecessor, is dedicated to the memory of Max Müller, I hope that its contents will again show the reader that Germany's academic interest in India continues to grow and is ever widening. From whatever angle the German scholar and scientist may look at the Indian subcontinent, their scrutiny and research reveal new discoveries leading human knowledge to greater heights.

The editorial work for this book was carried out with great dedication by the Cultural Counsellor, Mr. Alfred Würfel and his colleague, Miss Magdalene Duckwitz. That I can offer the second volume to the Indian public at the end of my seven years' assignment in India affords me great pleasure and is a matter of deep satisfaction to me.

New Delhi,
December 1976

Günter Diehl

GÜNTER DIEHL
Ambassador
of the Federal Republic of Germany

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FEEDING APPARATUS AND FEEDING PROCESS IN INDIAN FIDDLER CRABS: A SEM-STUDY*

BY

RUDOLF ALTEVOGT (Münster)

Back in 1892 and 1902 ALCOCK gave the first account on Indian fiddler crabs after he had watched these agile and rather small Crustaceans on the mud banks of the Godavari and Kistna rivers. More than 50 years passed without any further information becoming available on the Indian species of fiddler crabs (genus Uca, formerly called Gelasimus). More than 20 years ago I met the first fiddlers of my life on a muddy stretch of beach some 15 miles from Bombay (1953). Since then I have been lured back again and again to fiddler crab studies in India and other Old and New World tropical countries, in which my wife and some of my junior collaborators have joined me (FABER, 1959; FEEST, 1969; GÜNTHER, 1963; von HAGEN, 1962-1970; HEINRICH, 1971; JANSEN, 1970; KINNE, 1970; KORTE, 1966; NÖSLER, 1963; SCHUSTER, 1970).

Fiddler crabs of the genus Uca belong to the most highly evolved Decapod Crustaceans. These swift-footed and keen-sighted crabs inhabit the mud banks and sand shores of the warmer regions, in crowds of sometimes by the thousands so that their living quarters often become an overcrowded habitat. They build holes in the ground where they spend the high tide, and at the receding water's edge these crabs emerge from their dark period under ground. Hence, it is only during ebb tide that they can perform all the activities necessary for survival, i.e. feeding, fighting, courting, making love and digging their holes for the next high tide. Grotesquely enough, nature has endowed the males with an enormously enlarged claw on the left or right side while the other claw remains of a smaller size and is used for feeding which also applies to the two small sized claws in the females (figures 1 and 2). Incidentally, the large claw of the male is used to perform waving and fiddling movements aiming at a particular female and signalling the male's readiness for copulation. This gesture is species-specific, i.e. it varies with the species. In dense vegetation and sometimes at night, this visual signalling is replaced by vibratory signals which are again produced by the large claw tapping rhythmically against the ground (BURKENROAD, 1947; v. HAGEN, 1962; ALTEVOGT, 1964, 1966, 1970; SALMON, 1965).

---

* On the 75th birthday of my onetime guru Bernhard Rensch.

From the many highly intriguing problems posed by the fiddlers only the feeding process and feeding apparatus will be dealt with here.

It should be recalled that the mouthparts of Arthropods have evolved from former limbs for locomotion, i.e. walking legs have been transformed into a feeding apparatus which varies greatly according to the type of food. Fiddlers and some other shore dwellers have become filter feeders extracting their food from the substratum. To do so, an often highly complicated apparatus and process are required.

That this apparatus is derived from former walking legs can still be seen in the morphology of the larval stages (FEEST, 1969) of Indian Uca-species. Here we shall not go into the details of the phylogenetic transformation and adaptation of the locomotion apparatus into a feeding machine. Suffice it to say that in the Uca-species this feeding apparatus comprises 6 pairs of such former limbs, and looking into a fiddler's face one sees only the outer or 3rd maxillipeds, behind which a part of the 2nd maxillipeds sometimes shows up. Proceeding further into the mouth cavity we find the 1st maxillipeds, the 2nd maxillae, the 1st maxillae and the mandibles.

Of these various parts the 3rd and — even more so — the 2nd maxillipeds are of prime importance in the process of sifting out edible material from the epistratum of a fiddler's mud or sand bank.

As soon as the tide begins to run low the fiddlers open their holes, and after a quick glance for possible enemies (such as the Indian house crow, some herons, the paddy bird) they start feeding by scooping up the uppermost layer of their habitat using both claws if a female and the smaller claw if a male. Thus, handful after handful of mud is conveyed to the mouthparts and injected into the upper opening of the sifting chamber behind the bulging 3rd maxillipeds.

The males' disadvantage of having only one spoon in contrast to the two of the females is apparently compensated by a longer contact time of claw and mouthpart in the males (see fig. 3). Thus, in the male more food material would be handed over after each scooping movement than in one female scoop. As the crab proceeds from its hole it literally eats its way across the flat, and with the advancing intertidal period the bank becomes covered with small pellets of rejected sand or mud often forming geometric patterns of a rather aesthetic appeal (fig. 4).

These patterns are brought about by the crab which deposits handful after handful of the material rejected by the mouthparts in the shape of pellet-like balls of mud and sand which appear at the lower edge of the 3rd maxillipeds while the crab is filter-feeding. There are left-and right-handed crabs with regard to using the left or right cheliped in taking off these pellets and depositing them in often radial or linear patterns.

About the sifting mechanism involved in the feeding process and the role played by the various mouthparts, a number of theories have been advanced. PEARSE (1912) studying fiddlers in the Philippines could not gain sufficient information about the feeding process. VERWEY (1930) working on fiddlers in Java could not find out about the details of the feeding mechanism as the crabs are so shy and the sifting process is hidden behind the broad 3rd maxillipeds. CRANE, the American authority on fiddler crabs, stated that "the method by which the actual sifting is done remains as mysterious as ever" (1941, p. 150), and "the mystery of how these specialized hairs (we shall soon refer to them in detail, R.A.) are actually used remains, however, completely unsolved" (p. 165). PETERS (1953) working on Uca in Central America found that one could not tell what happens between the crab's mouthparts apart from the fact that they are moving rapidly. VERWEY (1930) referred to "the somewhat liquid material which assembles at the lower part of the third maxilliped" of a mud-feeding crab, without, however, being able to analyse the process in question. MATTHEWS (1930) thought that Uca takes organic (i.e. edible) particles from the mud by picking them up separately and one by one. PETERS (1955) maintained that a separation process using bristles and setae would occur in the stomach and was convinced that the pellets from the lower part of the 3rd maxillipeds were nothing but feces. MONOD (1923), DE OLIVEIRA (1939) and RAJABAI (1955) saw that from the mouthparts of a fiddler feeding under water a continuous stream of (rejected) particles flowed downwards, and RAJABAI thought this type to be a species-specific feeding method.

Now it is a fact that this "type" can be seen in literally all mud-feeding crabs provided their mouth parts are submerged in water. It is exactly this semi-submerged position which fiddler crabs apparently like to assume while feeding. This signifies that water is an important element in the feeding process, which fact tallies nicely with the phylogenetic approach of "the" feeding process in aquatic arthropods. Most of these use (external) setae and chitinous spines to collect and sift edible particles as plankton from the surrounding water. At the same time the water thus filtered for food serves as the carrier of oxygen for the respiration process.

Seen against this phyletic background, it is not so surprising that back in 1957 we interpreted the feeding process of fiddlers as "a flotation procedure" in which the respiration water is used as a separating and (particle) sorting medium. This respiration water becomes vitally important as soon as the crab begins its intertidal phase of activity, i.e. its period of spending about 5-6 hours more or less without external water. This water circulates along a fixed path leading from the entrance of the gill chamber to the exit of this chamber passing from the top of the mouthparts through the buccal cavity to the bottom of the mouthparts and finally again into the gill chamber's entrance. Certain appendages (scaphognathit) facilitate the streaming of this currrent, and thus the water is continuously re-oxygenated on its way.

Using biotio dyes and combined field and laboratory techniques, we could clarify in 1955 that Indian fiddlers sort out the food materials — living or non-living — from the soil by a strictly mechanical flotation process which is diagrammed in figure 5. As in the flotation procedures of a geologist or mineralogist, the mixture of coarse and fine particles, sand, plankton etc., is suspended in the water filling the buccal cavity behind the 3rd maxillipeds and being exhaled from the gill chamber. The setae and other hairy structures of the mouthparts — being continuously in motion in the feeding crab — serve as a sort of stirrer and mixer. The coarse and heavy (and mostly inorganic) particles sink down to the bottom of the buccal chamber more rapidly than the finer and lighter (and mostly organic) particles. The latter fraction is then conveyed to the innermost mouthparts and finally to the stomach whereas the inorganic fraction assembles at the bottom of this sorting chamber forming the pellet described above which is taken off by the small claw(s) and deposited in the said manner.

The quality of this physical sifting process varies with the crab species, the type of soil, the amount of water available etc. The refused pellets are by no means void of nutritive material, and sometimes — in densely populated crab places — the pellet fraction is "eaten" a second or even a third time. Bacterial matter is not utilized as food (ALTEVOGT, 1957).

The shape of the setae involved in this process and their functioning has remained a matter of some concern. CRANE (1941) was the first author to draw special attention to the spoontipped hairs on the merus of the 2nd maxillipeds and thought that number and shape of these spoons might be correlated with the type of soil inhabitated by the various species of Uca.

Besides the spoontipped hairs (see fig. 6) there are woolly and spadelike setae on the mouthparts, and the role of the various buccal structures as known after our studies on the Indian fiddler species Uca vocans (=marionis), annulipes and triangularis can be summarized thus:

In a Uca caught in its feeding period one finds:

1. the space behind the 3rd maxillipeds filled with mud and/or sand with the coarse particles (sand grains, small stones, shell fragments and foraminifera) predominantly in the lower part between 3rd and 2nd maxilliped;
2. the spoontipped hairs of the 2nd maxilliped almost all filled with detritus and plankton material;
3. the woolly hairs of the 2nd maxilliped covered with very small particles, mostly of organic material, adhesion and capillary attraction being responsible for this cover;
4. no large particles beyond the 2nd maxilliped (i.e. closer to the oesophageal opening);
5. the spadelike hairs of the 1st maxilliped also filled with plankton material. The more complete the shape and number of spoontipped hairs the more efficient can be the sorting process provided water is available in a somewhat sufficient quantity. As stated above, in Uca water is carried in the sort of "private ocean" of the respiration circuit. Nevertheless it is, of course, easier to rely on external water for the combined process of breathing and filter feeding, and hence the smaller crab individuals live closer to the water line than the larger adults. Thus the ecological distribution of fiddlers according to size, age and species is found to depend only or at least mainly on the feeding apparatus and process.

The sorting ability for edible material differs with the species and we have quantified this ability by using the Kjeldahl-method in assessing the nitrogen contents of the untouched epistratum, and of the rejected material in the pellets (ALTEVOGT, 1957). By this method one can easily estimate the amount of protein extracted by the crabs.

The species living in sandy areas show a better sorting ability than those of muddy or silty banks. Thus, the Indian sand-dwellers Uca annulipes and Uca triangularis extract about 30% of the food material suspended and interspersed in the substratum of their sandy-muddy habitat while the more predominant mud-dweller Uca vocans (=marionis) gains only about 25%.

According to these findings it is comprehensible that an epistratum rich in water content facilitates the feeding process and that all fiddlers go through their feeding period as long as water is freely available on the flat.

Hence, it is the feeding mechanism that determines the first part of the crabs' behaviour schedule at each low tide: the feeding period which commences with the receding water.

Since our studies on Indian Uca species, TEAL (1958), MILLER (1961) and ONO (1965) have extended the study of mud feeding crabs in the USA and Japan. TEAL found that the sand-dweller U. pugilator could not live in a muddy habitat which he ascribed to the lack of woolly hairs on the 2nd maxilliped. MILLER reported on the relative importance of various types of hairs on the mouthparts for the feeding process. He had, however, extirpated essential mouthparts (3rd maxillipeds, parts of the 1st maxilliped etc.) to better be able to view the motion of the remaining feeding machinery. Such extirpation must have been disadvantageous for the normal process so that the interactions of the various mouthparts could not too well be elucidated. Moreover, the respiratory water current was severely hindered after the removal of the other maxillipeds. ONO's study proved that the specialization of mouthparts and their setal structures is correlated with the type of habitat colonized. My collaborator FEEST (1969), continuing our studies on Indian fiddlers, found that the incomplete feeding apparatus of juvenile Uca triangularis and U. annulipes forces the young ones to live near the water line, lagoons and other tidal pools to take advantage of the external water there. It is only later that the adult ones colonize the higher and drier habitats as they have meanwhile developed the full set of feeding setae. The more numerous the spoontipped hairs the better is the crab's ability to live on a sandy substratum. An adult Uca annulipes of 12 mm carapace width, for instance, has about 400 such spoons whereas an equally large U. triangularis boasts only about 150 (FEEST) — sufficient for a mud-dweller.

The feeding problems in general, then, had been clarified but some of the finer interactions of the intricate structures in the buccal cavity had escaped elucidation.

Together with my collaborators and aided by a scanning electron microscope (SEM) — a generous grant from the Deutsche Forschungsgemeinschaft* — we have made a comparative hair study of about 25 Uca species. Five of these are inhabitants of Indian soil including Uca urvillei and U. dussumieri from the Andamans which islands became accessible to me as a guest researcher of the Indian Statistical Institute thanks to the help of Dr. T. A. Davis, Professor-in-Charge of the Science Units, and a special permit of the Government of India.

---

*(Grant Al 13/11)

Our combined efforts comprised also the thesis work by SCHUSTER (1970) and the technical help of Dr. U. Hiller and Miss M. Hans to all of whom I am grateful for their cooperation.

From an evolutionary aspect it is useful to emphasize the gradual transition of "the" primordial malacostracan crustean relying on a coarse type of detritus feeding in which certain setae would individually pick up larger particles the smaller ones being sorted out by external filtering of the surrounding water. This can be seen in larval Caridina piercing its food by spines of the maxillae. In larval Uca (zoea stage) the maxillipeds are used for aquatic locomotion, and only in the megalopa will the maxillipeds become true mouthparts.

It is important to remember that in such external filter-feeders the first pair of limbs with its setal structures is cleaned by the subsequent pair of appendages. This principle is apparent for instance in the Crustacean sequence Calanus, Nebaliopsis, Nebalia and Caridina in which body appendages (antennae, mouthparts and limbs) are used to produce water currents transporting food particles to the cephalic region. Filtering, then, is done by quite a number of locomotory limbs, and cleaning the filter mechanism is accomplished by the subsequent pairs of appendages in these serially arranged organs.

Ascending the crustacean evolutionary ladder, one finds an increasing concentration of the sorting and filter organs near the buccal opening. In Porcellana, for instance, it is only the 3rd maxillipeds which transport the food particles and hand them over — via long plumous setae — to the mouth proper. Cleaning these setae of the 3rd maxillipeds is done by pinnate setae on the 2nd maxillipeds.

A similar principle prevails in the mutual cleaning, i.e. handing over of food particles sorted out from the gross mud and sand, of the mouthparts in Uca, Dotilla, Scopimera and other epistratum feeders: The outer 3rd maxillipeds are cleaned by the 2nd maxillipeds, these by the 1st maxillipeds, and so on until finally the material (i.e. the food) arrives at the innermost mouthpart, the mandible, whence it is swallowed into the oesophagus. Cleaning the setal structures (spoon-tipped and woolly hairs etc.) then, is nothing but transporting the food particles to the next station and freeing the "spoons" again for the next filtering activity.

It goes without saying that in the course of this phyletic transition from the aquatic type to the almost totally terrestrial Uca-construction, limbs and parts of them can become reduced, enlarged, transformed in shape and function or even totally vanish. Thus, the former leg can hardly be traced in the adult 2nd and 1st maxilla though in the larval zoea it is still clearly visible.

Generally, these transformations are an example of GOUIN's principle of regressive orthogenesis meaning that parts of a complicated system need not become rudimentary or devoid of any function but modified to an ever increasing ("orthogenetical") functionality.

The same principle applies to the various types of setae, bristles and plumous hairs on the mouthparts of Uca and its predecessors: The spoon-tipped hairs so far emphasized as situated mainly on the 2nd maxillipeds are found in all those places where an especially intense sorting function must be performed, i.e. on the median edges of maxillipeds, maxillae, endits, and palps. SCHUSTER could prove that individual ontogenetic series lead from a primitive type of bristle to the highly complicated pinnate spoontipped hair. In Uca vocans for example, SEM-photos reveal that the terminal lobes of the "spoon" are composed of several hairs fused together. The same aspect is gained from a SEM-photo taken from Uca rapax from the Gulf of Guayaquil/Pacific Ecuador where one can literally see how several hairs join as canellures to form the shaft of a spoontipped hair (fig. 16). Hence, the often mentioned spoontipped hair is the final stage of an ontogenetic series of developing hairs.

Not all Uca-species, however, reach this final and most highly evolved stage. Only the sand sifters do this. Pure mud-feeders often stop this developmental series at the woolly hair stage.

In the sand sifters, however, the number of spoontipped hairs increases, and the width of the spoons becomes larger with each crab stage. The range covered from crab stage 1 to the adult of a carapace width of 2.6 cm in Uca vocans is 0.016 mm to 0.046 mm. There is hardly any difference in spoon width in all adult species which implies that the particle size taken as food is not limited by spoon dimensions but by the width of the setal arrangement, i.e. the meshwork of the hairy structures on the innermost mouthparts.

In U. annulipes this width, i.e. the distance between the basal parts of the spoontipped hairs on the 2nd maxilliped, is 0.036 mm, in triangularis it is 0.042 mm and in urvillei 0.038 mm. On the 1st maxilliped these distances are an average of 0.02 in the three species mentioned, and on the 2nd maxilla we find this distance, this network of hairs to be 0.012 mm wide.

This finding signifies that the filtering network of setae becomes narrower and narrower the closer the food particles are approaching the oesophageal

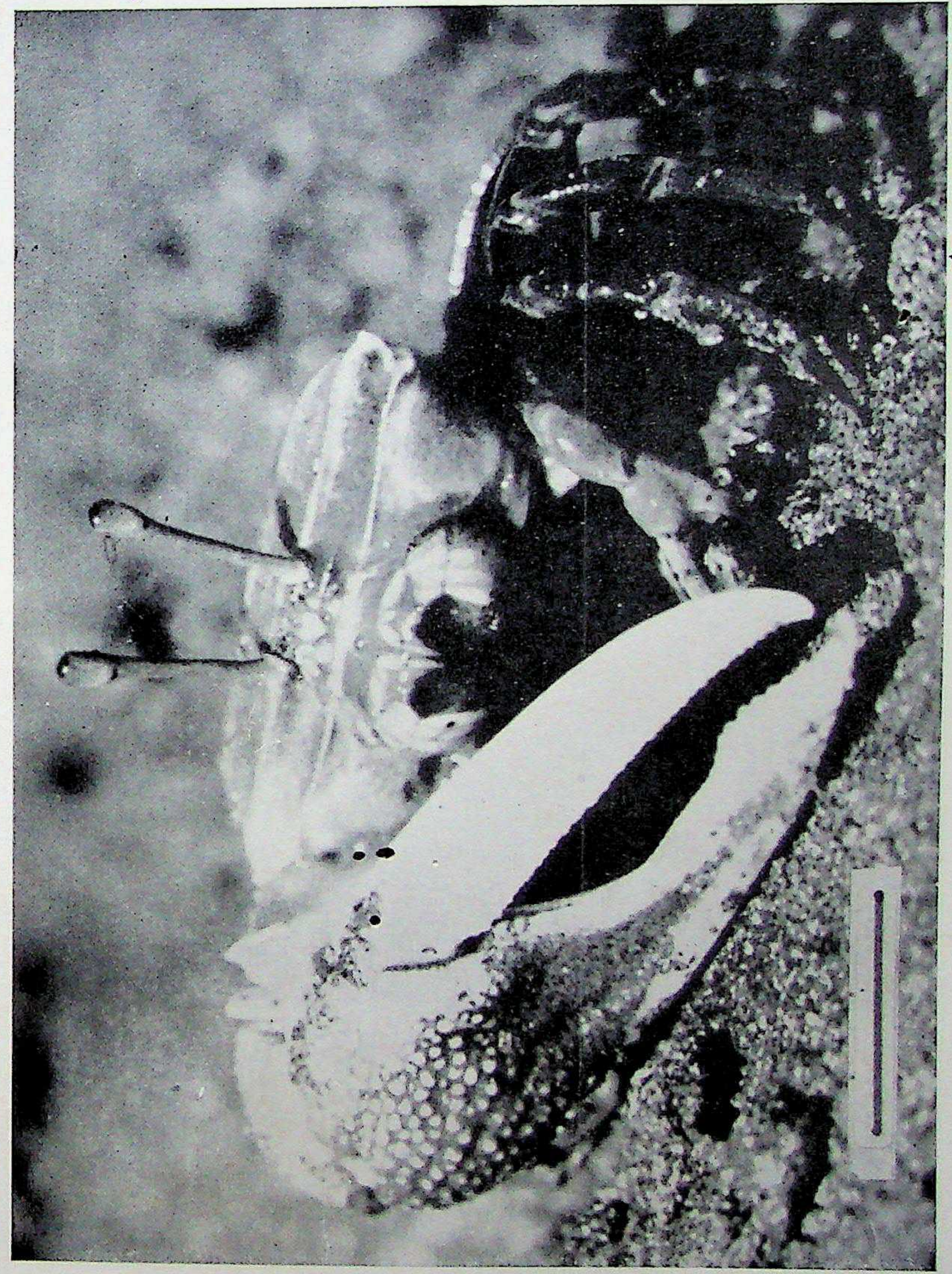
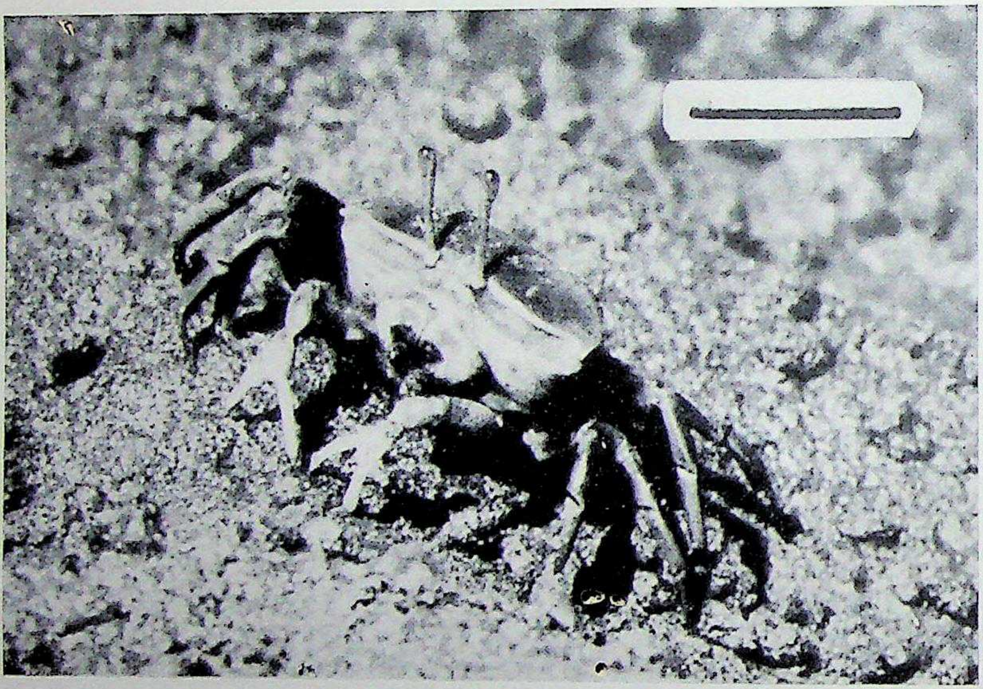


Fig. 1



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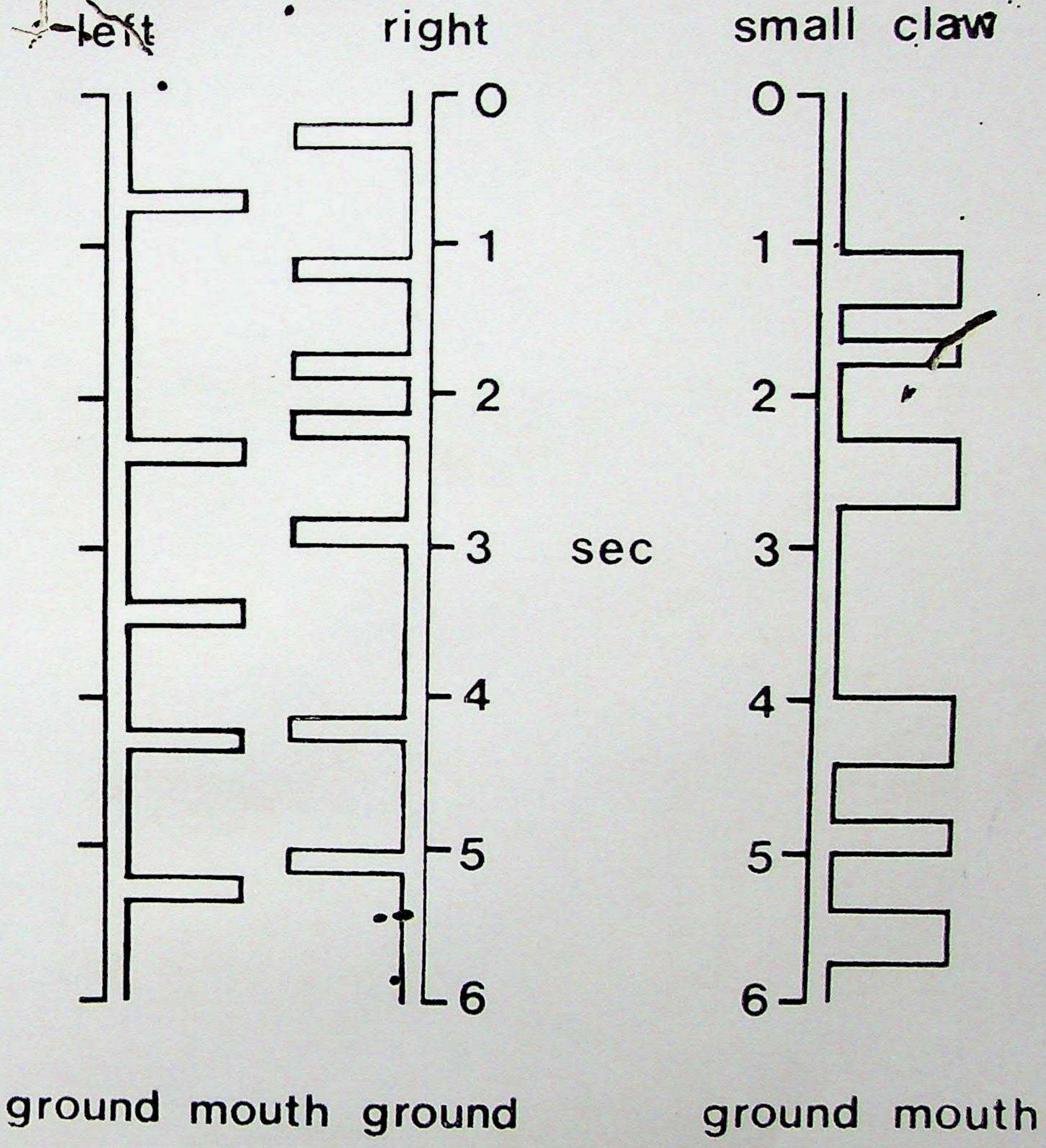
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Fig. 3

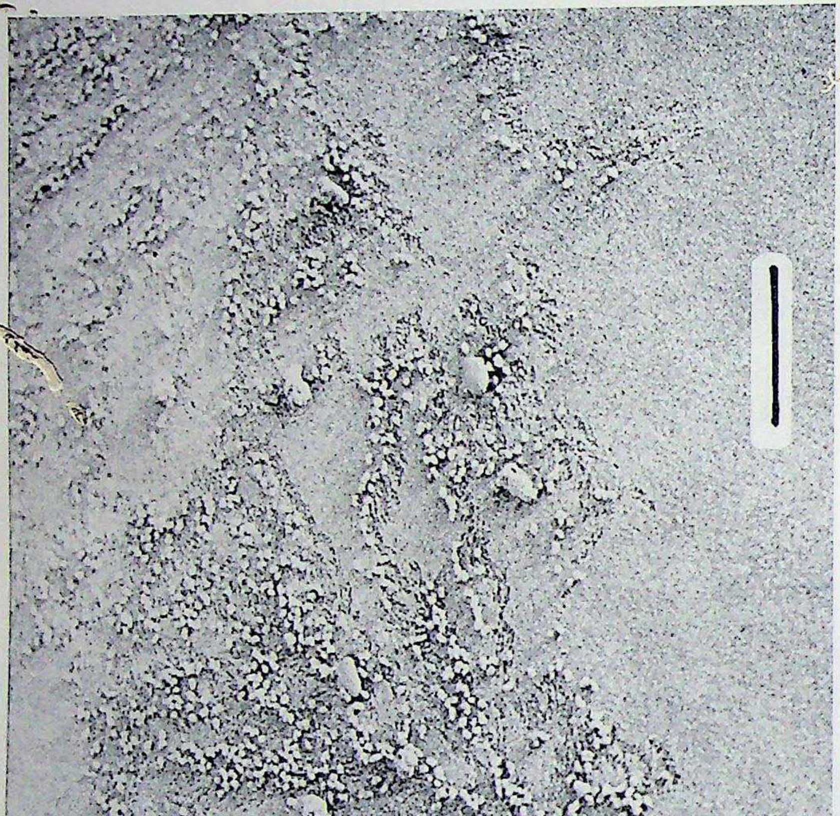

Fig. 4

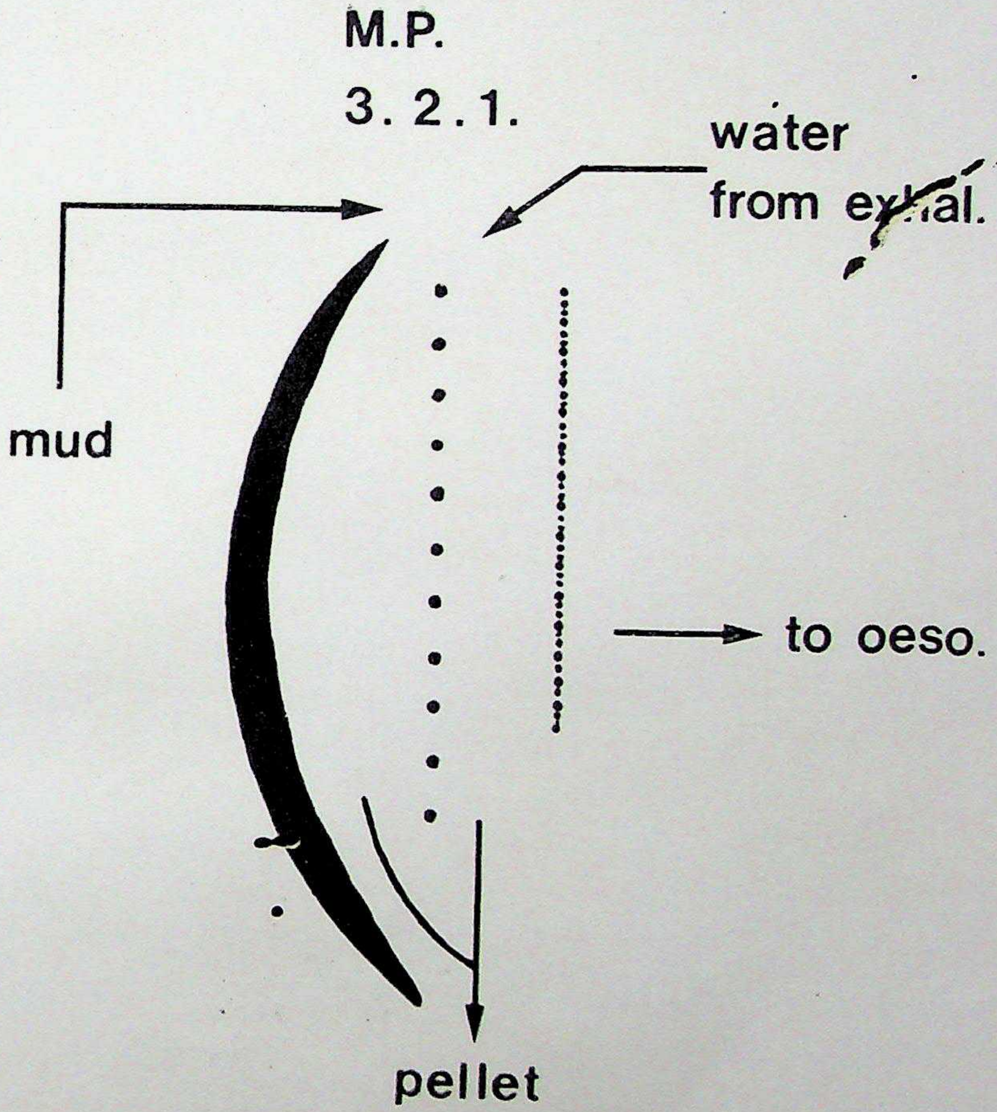
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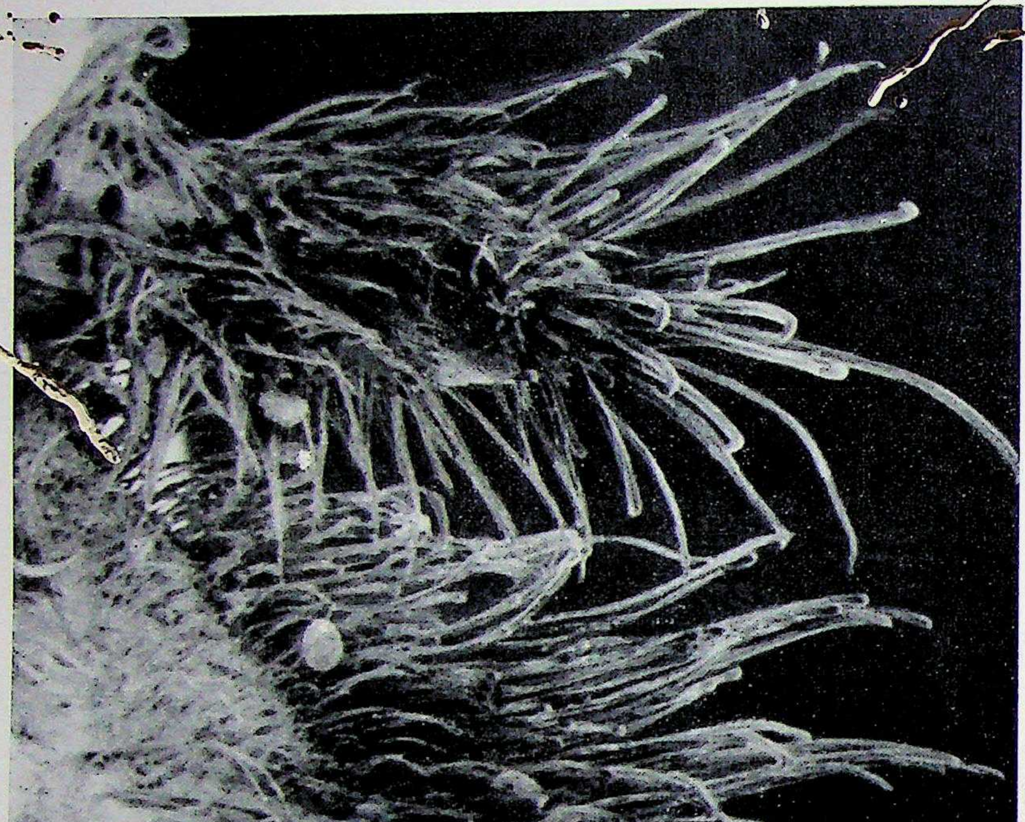
Fig. 5



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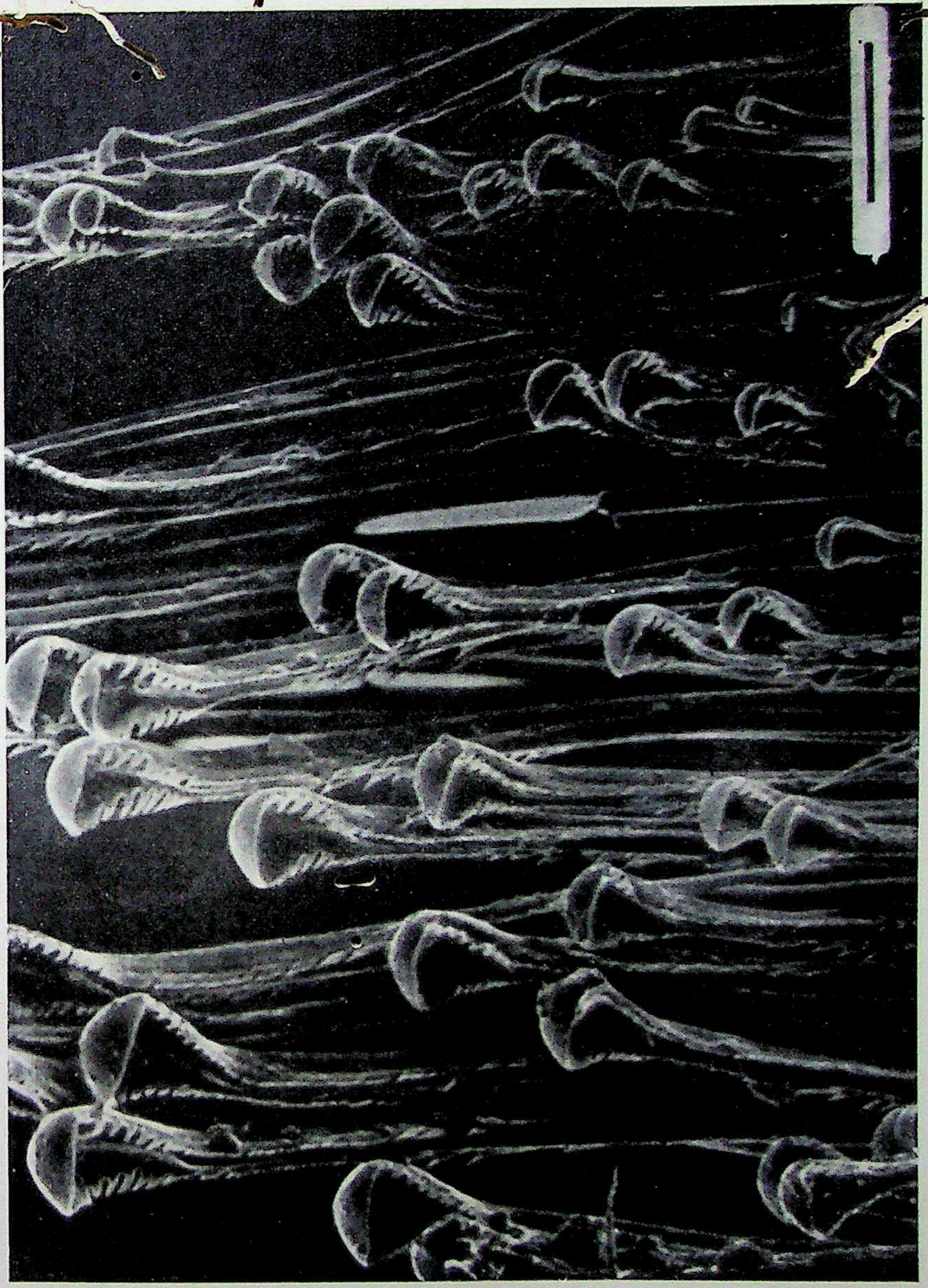

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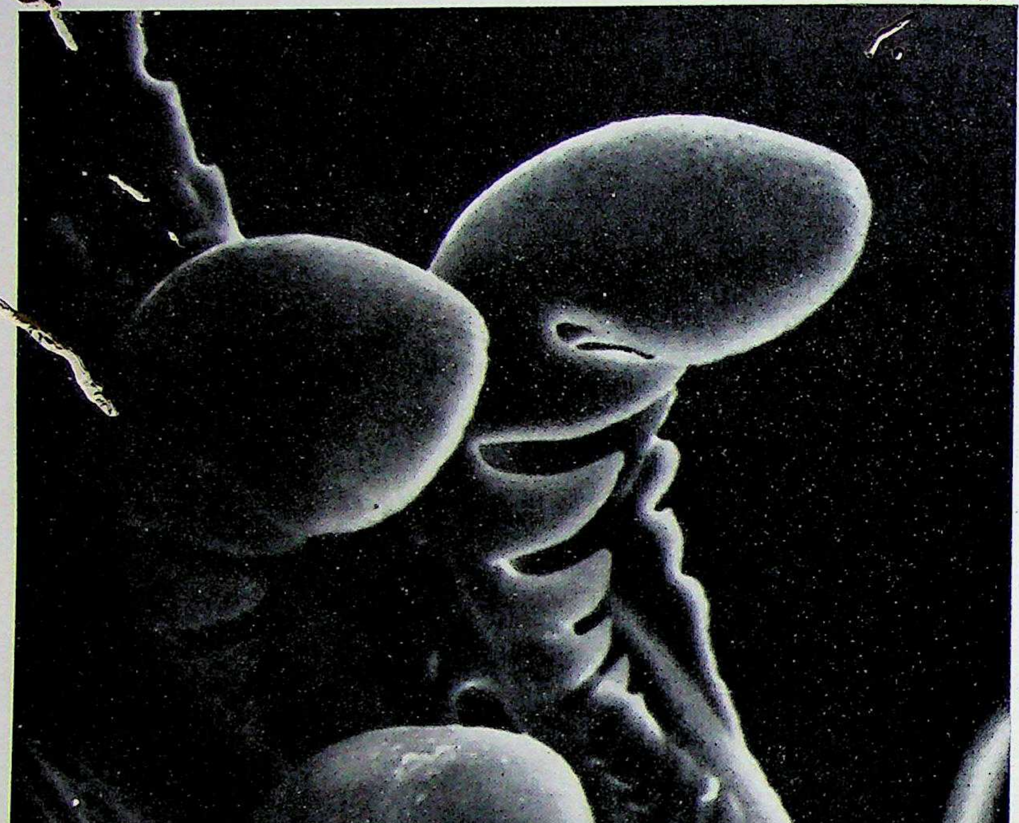

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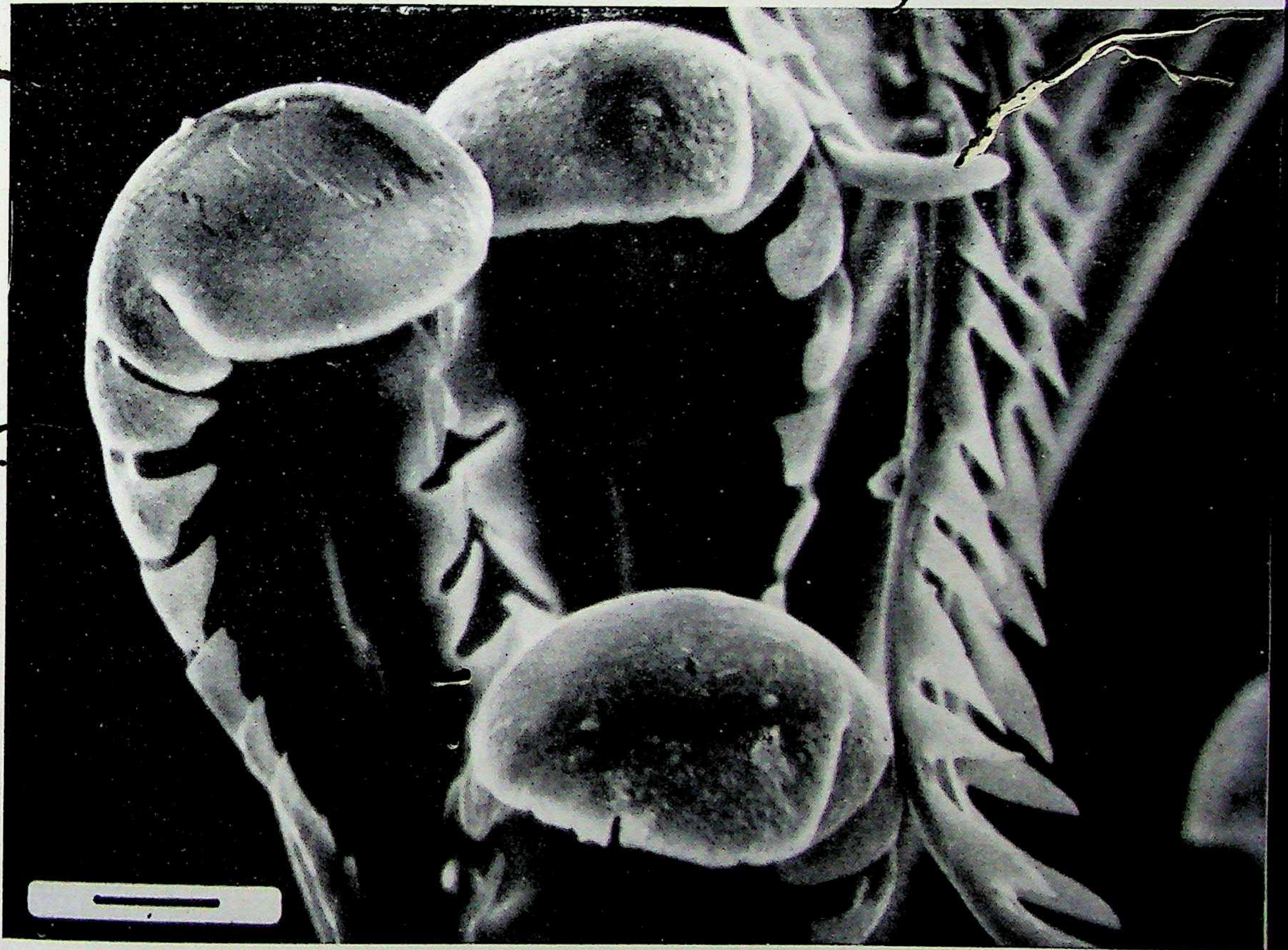

Fig. 9

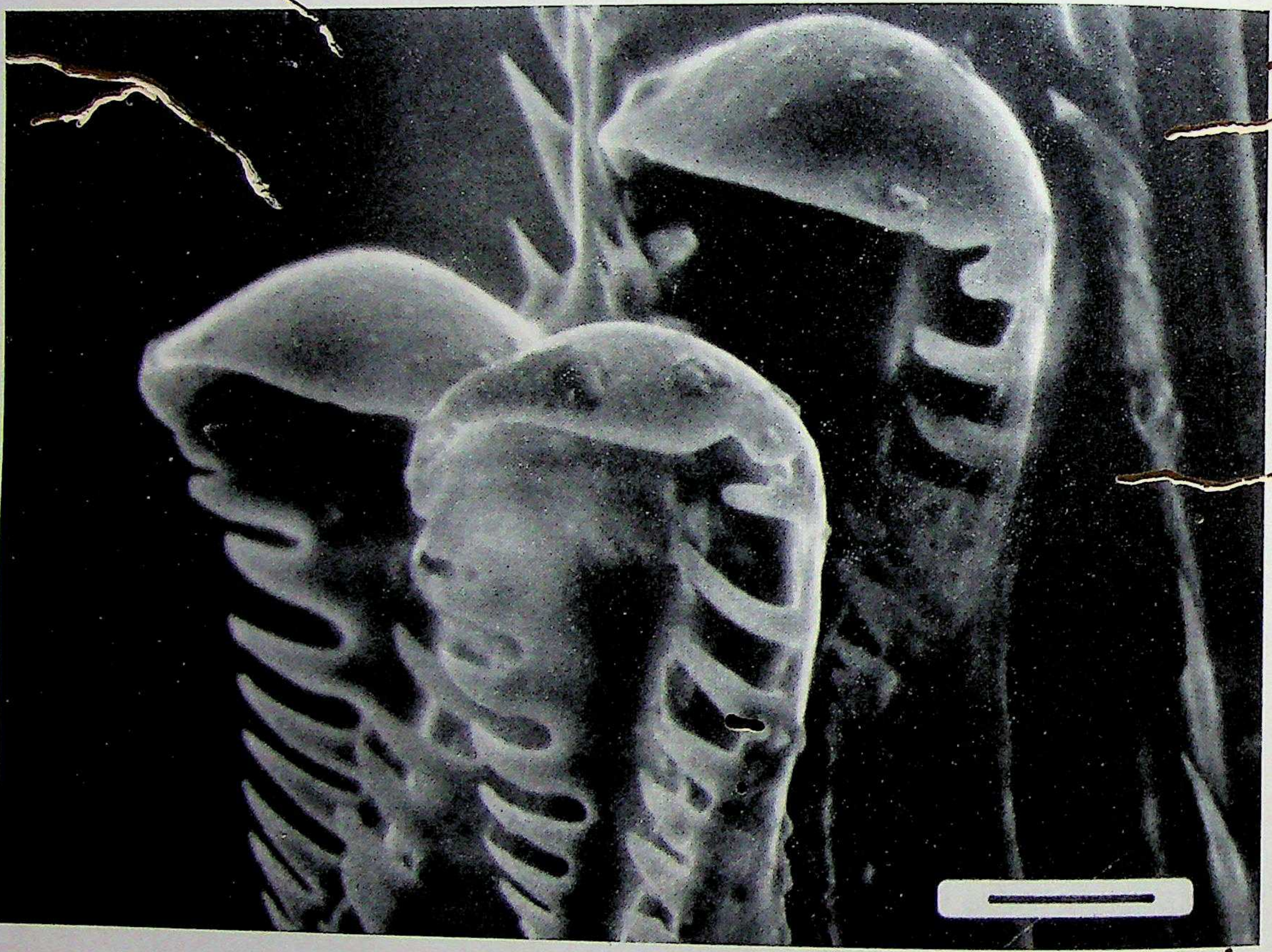

Fig. 10

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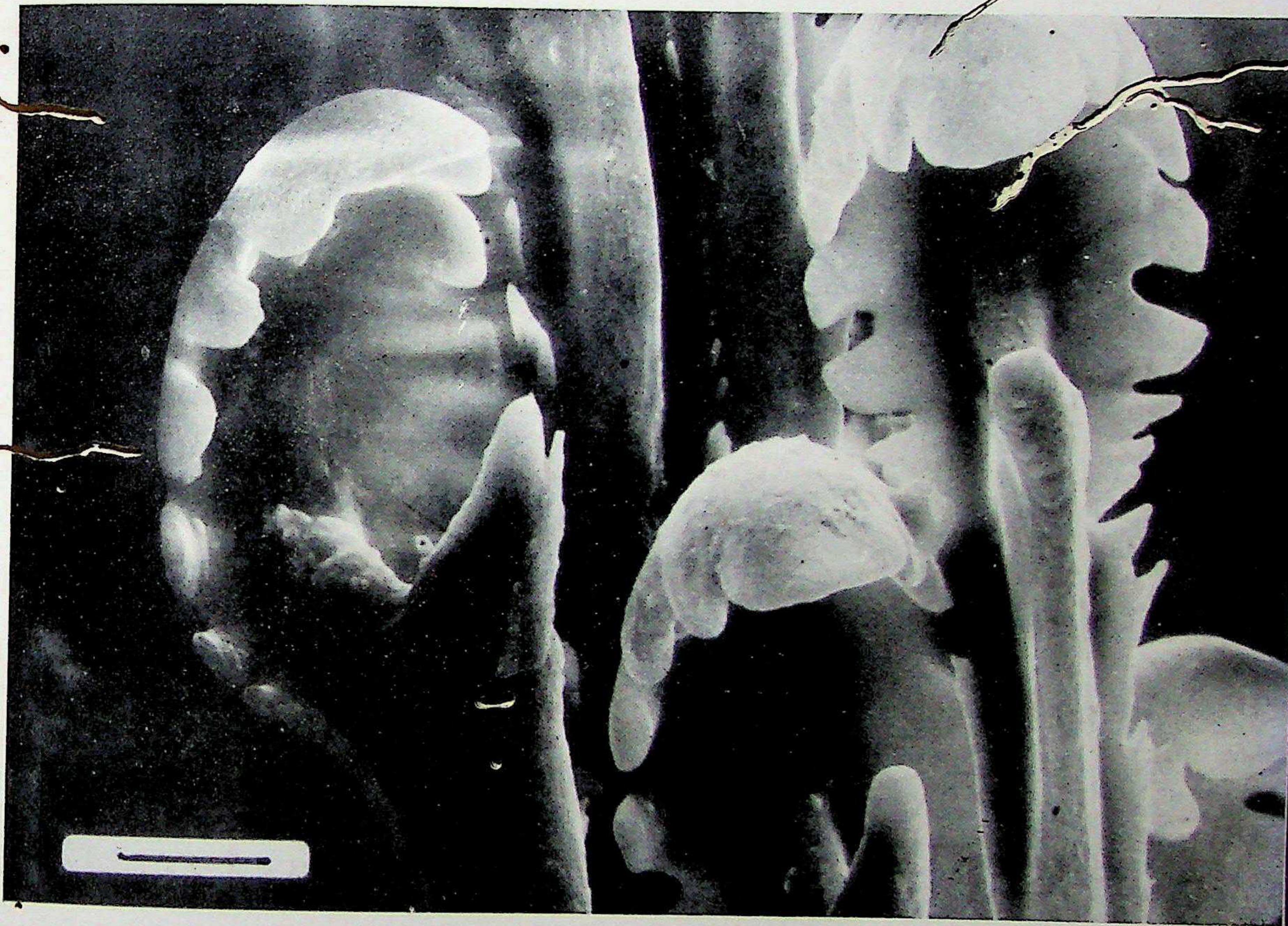

Fig. 11

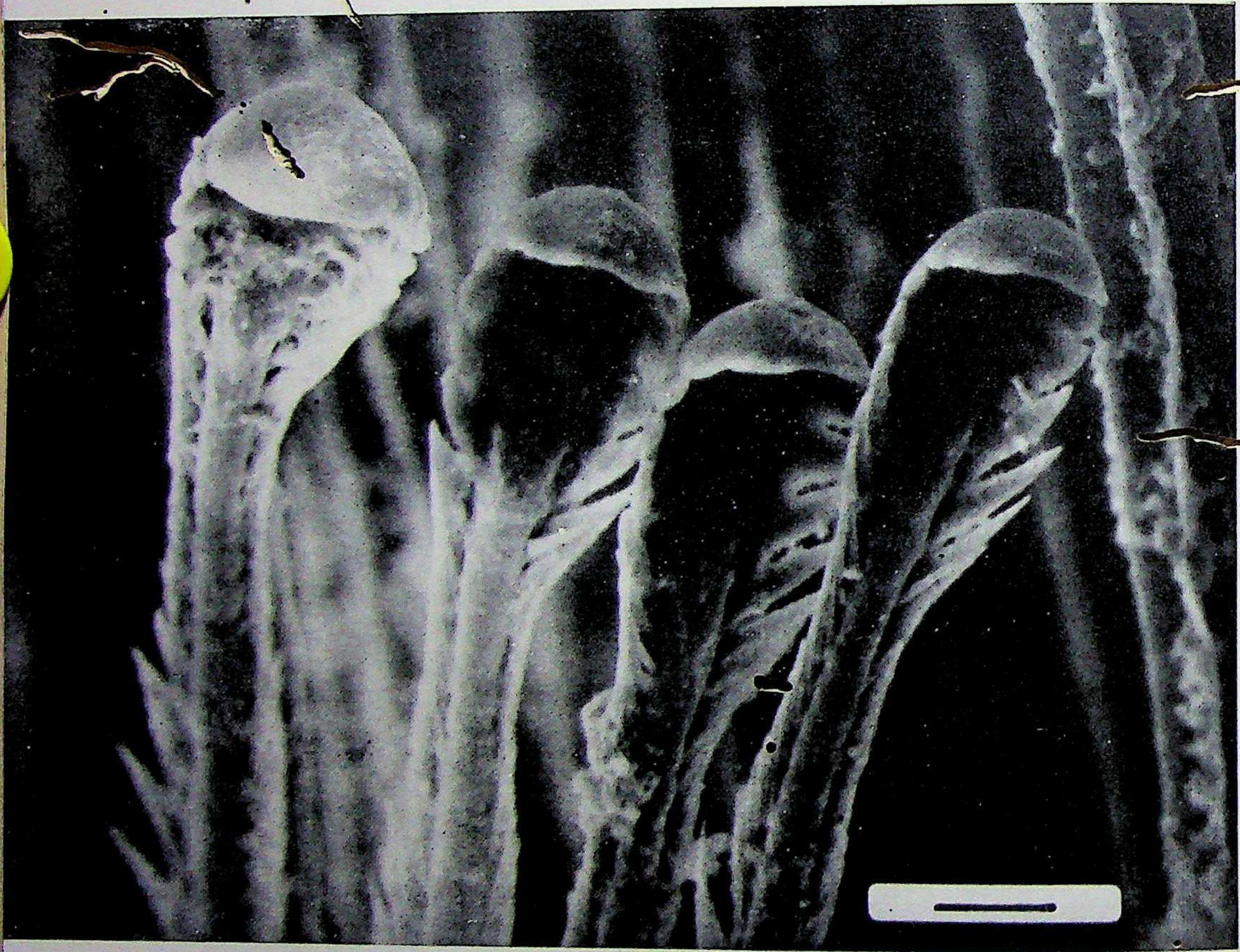

Fig. 12

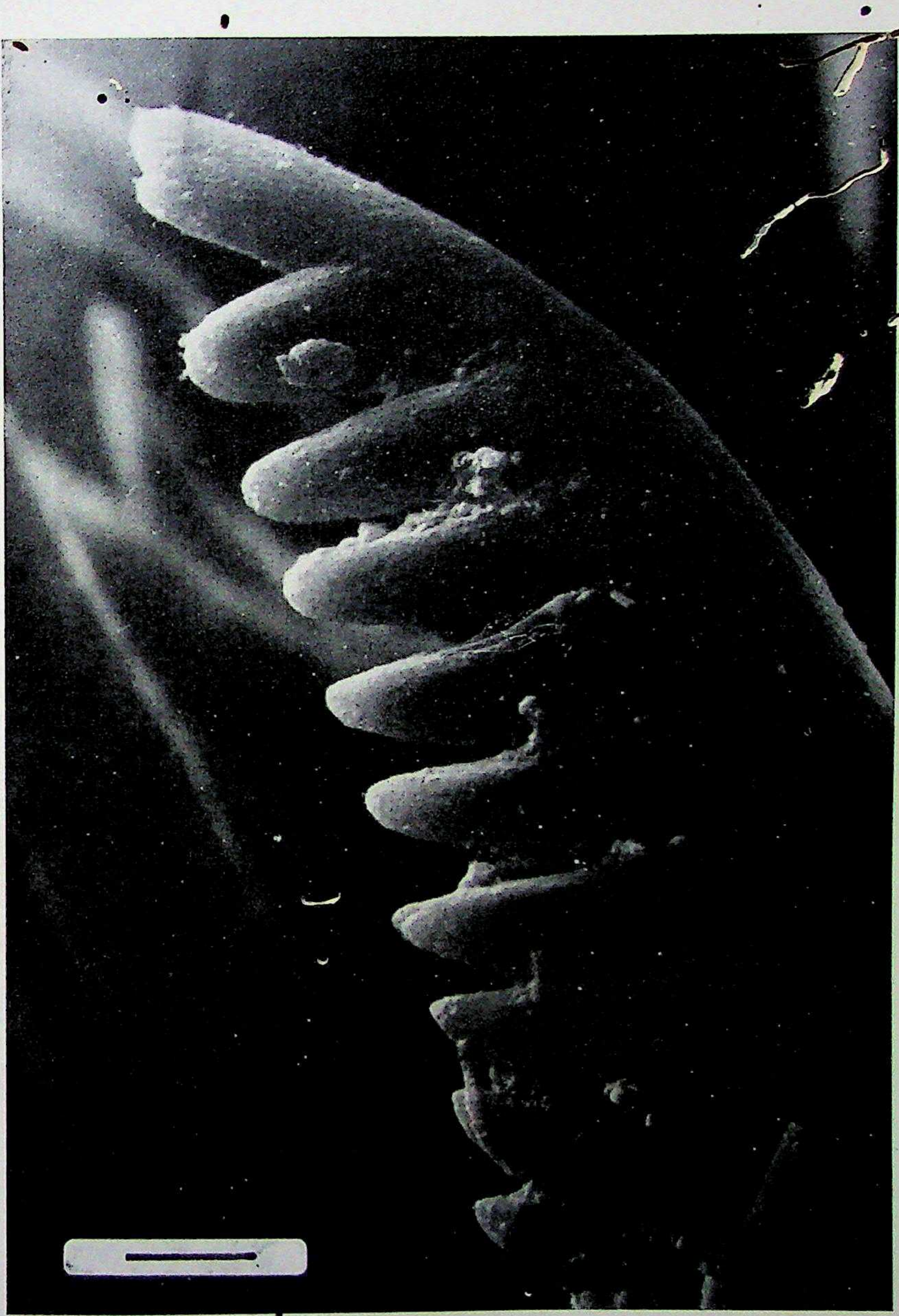

Fig. 13

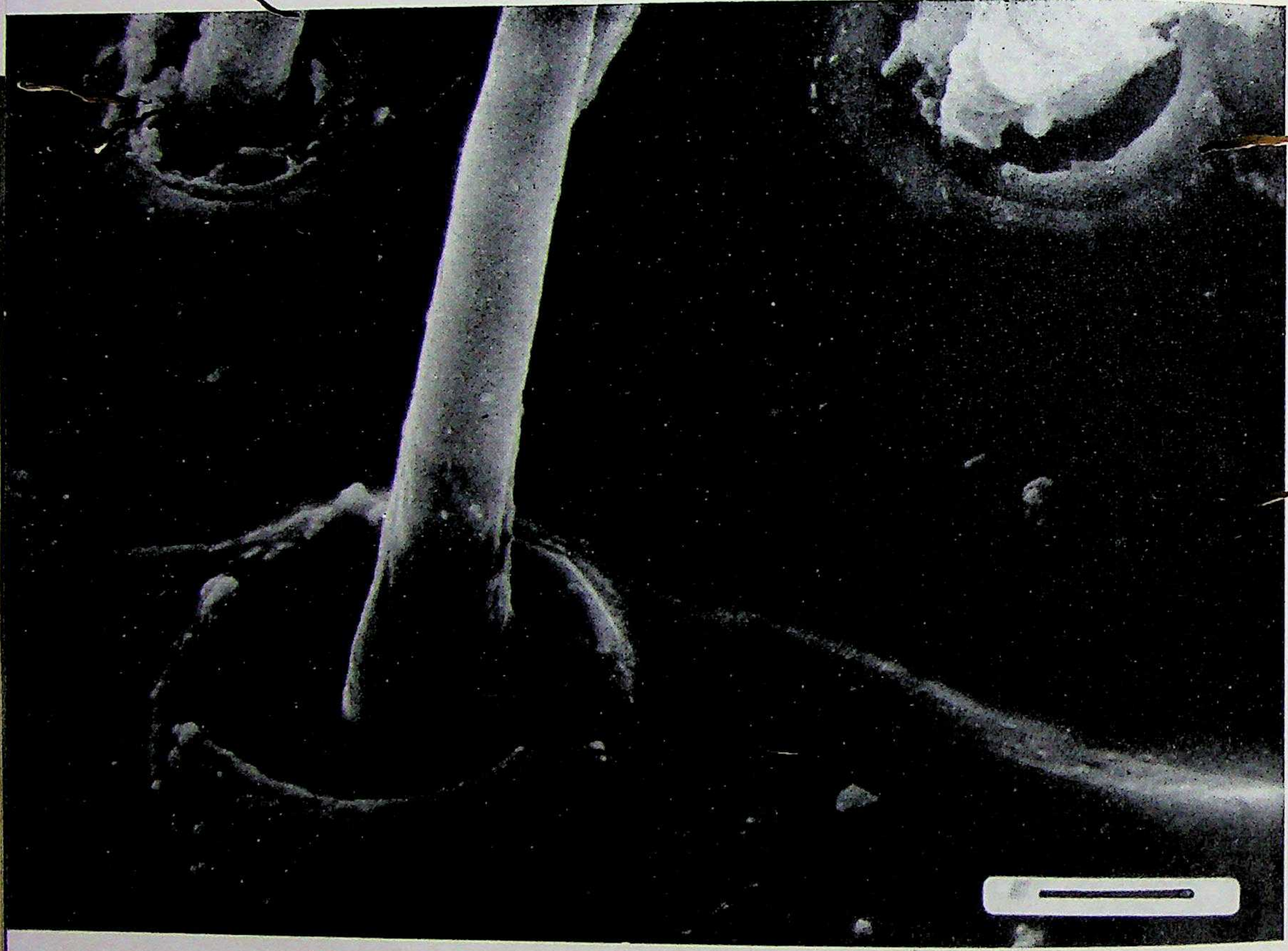

Fig. 14

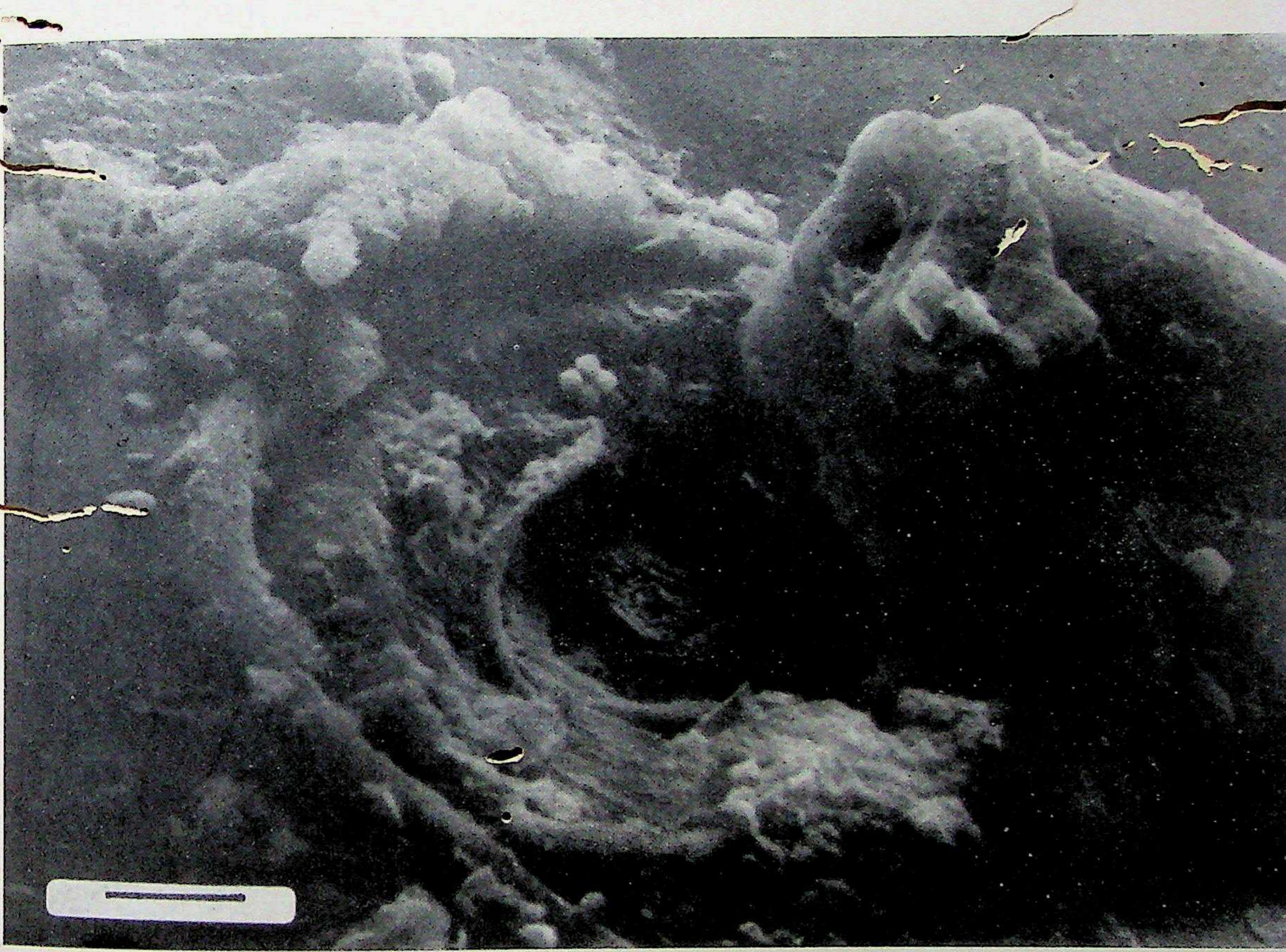

Fig. 15

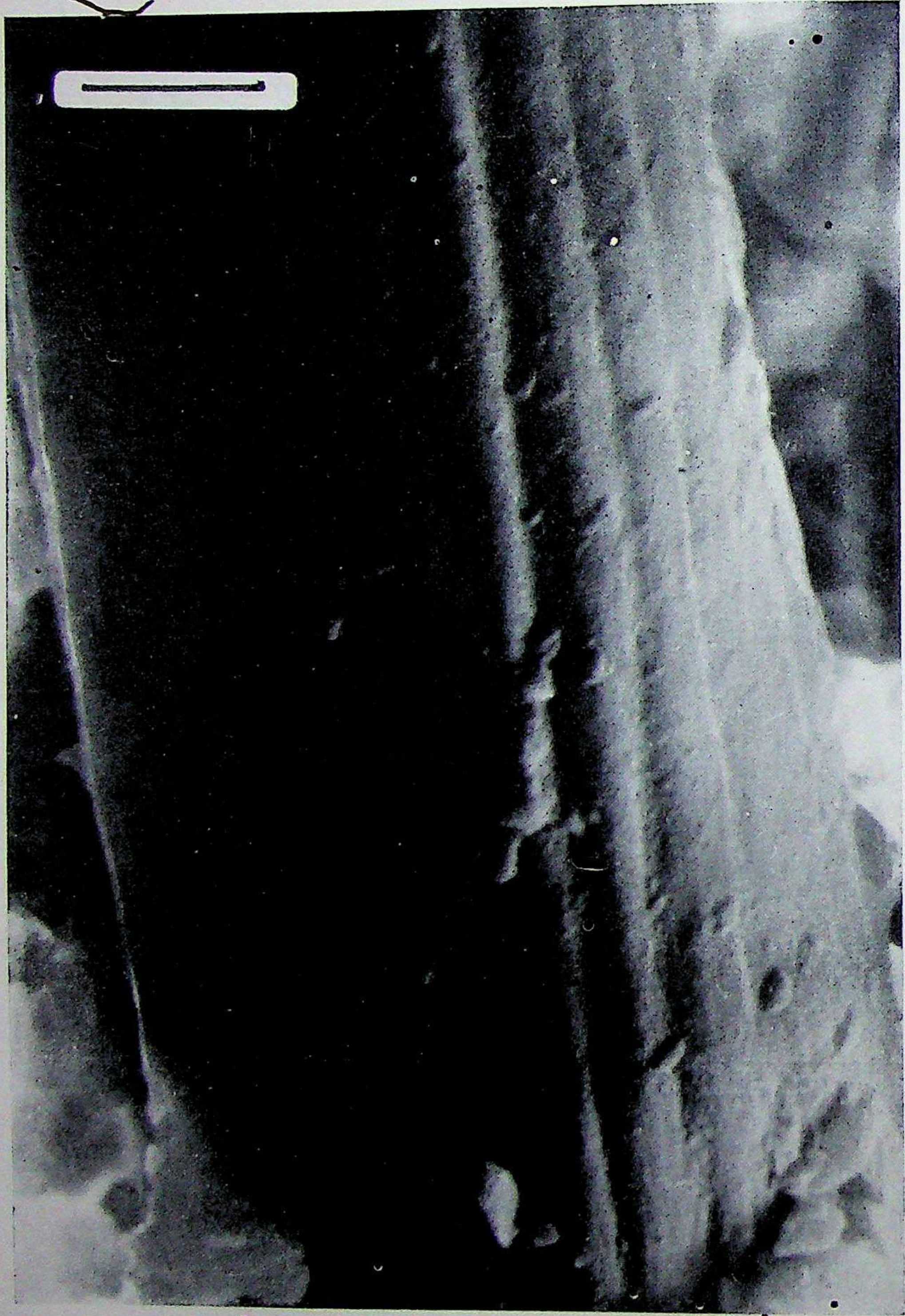

Fig. 16

opening. Let us not forget that a brush with finer bristles can more easily clean a coarser brush than vice versa, and this aspect applies exactly ~~to~~ the relative dimensions of the mouthparts of filter feeders.

Histologically, all these setal structures emerge from a ringshaped base which gives them lateral movability. The hairshaft proper is here reduced in diameter so that an even better movement to all sides is made possible (fig. 14). The next ontogenetic generation of hairs — appearing after the next moult — is performed as a small papilla in the basal part.

Though there are hairs and setae in the animal kingdom which are minutely innervated to enable them to sensory functions, the setae of all Uca mouthparts are devoid of any neural pathways. This implies their strictly mechanical function: Uca has no chance to actively sort out certain particles from its mud and sand diet. This again emphasizes strongly how tight Uca species are confined to certain types of substratum, soil texture, water content of the soil etc.

A comparative look at the spoontipped hairs of some non-Indian Uca species will help us further in understanding the functioning of the feeding apparatus. In U. insignis from Northern Peru*), the SEM-look shows a thumblike structure right in the centre of the spoon cavity (fig. 11). It is evident that this thumb opposing the "palmar" surface is an excellent means of separating coarse and fine particles in the liquid filter process.

The palmar cavities of all setae are placed in such a manner that those on the left mouthpart face those on the corresponding right part, so that the two halves can "toss" the food material to and fro thus improving the sorting efficiency.

Model studies on the mouthparts' movability with regard to the mode of transport of the sifted particles to the oesophageal opening were done by SCHUSTER using binocular microscopes thus simulating the feeding process.

Summarizing all a.m. findings one gets a clearer understanding of the processes behind the screen of the outer mouthparts of soil-feeding fiddler crabs, i.e. of the feeding process proper.

An important fact in this process — apart from the shape, structure, position and dimension of the parts described — is the mode of movement. By such model studies and from close-up motion scenes of feeding fiddlers one can infer that the mouthparts have not given up their ancestral type of alternate innervation and alternate movement. Just as the walking legs of a fiddler in locomotion follow a certain pattern of alternating movement (see ALTEVOGT 1972 and the films of the Encyclopaedia Cinematographica quoted at the end of this article), the left and right halves of the maxillipeds, maxillae etc. move to and fro, from a lateral to a medial position in an alternating manner. The mouthparts have retained the ancestral locomotion pattern of the walking legs from which they have been derived.

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It is only by this alternating movement pattern that the process of sorting particles out of the mud, retaining them for a short time in the spoons and then getting the spoons cleaned for the next sorting act can be accomplished: The mouthparts of the right side clean the subsequent ones of the left side, and at the same time they convey the material brushed out of say the 2nd maxillipeds to the 1st, from there by cleaning the 1st maxilliped to the 2nd maxilla and so forth until finally the 1st maxilla feeds the edible fraction into the mouth.

This description applies to all setal structures of all mouthparts in fiddlers and to a good number of other epistratum feeding crabs also.

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ON THE ORIGIN AND GROWTH OF INDIAN LANGUAGES

BY

HERMANN BERGER (Heidelberg)*

On the ancient and modern Indian languages, their coexistence in the present and the problem of their presumptive future, so much has been said since Independence that it seems almost risky to take up the topic anew. But on closer observation nearly all opinions hitherto expressed appear to be divided in two groups with no or only a very slight connection between each other. One group sees the language problem of today — for a problem it has become long since — mainly in its political aspect and, therefore, discusses it exclusively in terms of politics and sociology. On the other hand there is the view of the philologists. In voluminous books they show how the wealth of Indian languages and dialects developed from time immemorial through many stages up to the present day. And they never forget to declare energetically that an understanding of the present position is impossible without an intensive study of its historical foundations. But because of the immensity of the material they are often prevented from substantiating this point.

In fact, a manner of analysis which goes beyond the usual superficial enumeration of some historical data, trying to penetrate deeper into the actual qualitative nature of the languages in question, presents a so far rarely utilized chance for an understanding of the present situation. It would be essential not to take the concept "historical" in its usual narrow meaning as the sequence of events which once happened and are over and gone today. What counts is the inner world of ideas and concepts, which has been developed in those older literatures and the degree in which, also today, they form every member of the language community — even the uneducated one — in his thought and perception. It is in this light that my following expositions should be understood. As a general observation I should like to premise — especially for my Indian readers — that, if I ascribe greater or smaller advantages to certain aspects of a particular language, it should by no means be felt that I was ranking that language above or below other languages; my only aim is to achieve a more distinct characterization.

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*Based on a lecture delivered at the Indo-German Society, Darmstadt, on February 6th, 1970.

Now as ever, each description of the Indian languages and their history has to begin with Sanskrit. That this language, which was considered holy by the Indians in ancient times, has a tradition reaching back as far as to the second millenium B.C., that it has an immense vocabulary and produced a vast literature embracing many centuries, is doubtlessly of great importance. But these are simple quantitative points of view, which can easily cover up the uniqueness hidden behind this remarkable language. Today we might think it peculiar if one of the greatest German minds of the past century, Wilhelm von Humboldt, in his famous work on the Variety of Structure in Human Languages considers Sanskrit the unsurpassed zenith in the whole development of languages yet known to us. But a more closer modern view, with the refined conceptional means achieved in contemporary linguistics, could indeed more consciously verify Humboldt's conception. What charmed him most in Sanskrit, was its highly developed, perfectly composed grammatical structure. Assigning within the individual word the conceptional essence to the root (which itself is phonologically variable), marking the abstract grammatical relations by short endings and the more substantial variations through prefixes which combine a concrete spatial meaning with an abstract one, this structure bears indeed a highly progressive character. It is enforced by a handy, well organized phonological system and the almost unlimited capacity to build compounds. Complementary to such a structure, which essentially is still the basis of the modern European languages, a historical way of thinking, caught up in analogies, would expect from the older Sanskrit literature a content equally centered in the pragmatic. The fact that just the opposite is true constitutes the immense charm which the older Sanskrit literature has ever since exercised on minds spiritually responsive as well as the enormous difficulties which it sets up for modern understanding. The oldest documents, so to say, do not yet touch the soil of our earth. They contain spiritual revelations which cannot be even called "religious", because that would imply something conceptionally formulated, presupposing reflection. But then, to the Hindu upto now the essential aspect of the Vedas has been the "mantric" element, e.g., the imminently effective power of the spoken sound itself without any consideration of the intellectual or grammatical significance. In Indian philosophy where powerful mystic experiences stand against a sharp, almost pettifogging intellect, we find the same spiritual range in another form. In later centuries, when also earthly contents were expressed through Sanskrit, this has become somewhat subdued. But on the whole the language has remained true to itself; the refined technique of the lyric poets to describe exuberantly rich feelings with scientific accuracy is only one example for it.

A further peculiar feature of Sanskrit emerges if we compare it with the classification of "dead" or "living" languages as developed in the West. Indian Pandits can become very angry, if one calls Sanskrit a dead language. However, they overlook that we do not perceive the constant oral or written application as criterium of a living language, but its exclusive or at least predominant use as "mother-tongue" by a specific group which, although unconsciously and mostly quite slowly, is continuously working on its change and further perfection. In the light of this concept the Latin of the Middle Ages, too, is a dead language, though all over Europe it was the medium of teaching and in some university centers it was even used as colloquial language. For nobody went with it through the decisive phases of his early childhood. If changes took place, they concerned but peripheral realms in the vocabulary whereas the morphology and the syntax remained unchanged and, in the Renaissance period, were even completely and expressly reoriented towards the classical ideal. Nevertheless, Sanskrit cannot simply be compared to Middle Latin as it is often done. Certainly, some centuries B.C., in Sanskrit too the morphology had already been fixed once for ever by the great grammarian Pāṇini. But if we take the statements of the old texts seriously, the relationship of the speakers to Sanskrit cannot, at least in the older periods, have been such as to a dead language. It rather appears as if the Brahmin caste, whose class-language was Sanskrit, had been able to stop the wheel of time and to maintain a genuine and lively contact with the body of the language, when the broad masses long since had perceptibly transformed the language through changes of all kind. This connection between an exalted constancy and a nevertheless growing, pulsating life is, in my opinion, a deeply Indian phenomenon the outward manifestation of which in a particular period was only possible through a stern sanctification of kinship ties and social protective measures which remain unique in the whole of world-history.

Basically, the entire Middle Ages were still dominated by Sanskrit, and the development of the Middle-Indian dialects into individual literary languages constituted only an episode, in spite of their rich literature. Indeed the fact, that the major part of this literature did not originate in the very heart of Indian culture, but out of sects considered to be heretical by the Hindus, is characteristic enough. Pali, the oldest Middle-Indian literary language preserved, was the idiom of the Theravāda Buddhists and remained the language of the monasteries in Ceylon when the

Theravādins, like all other Buddhist sects, disappeared from the continent at an early stage. *Ardhamāgadhi*, *Jaina-Śauraseni* and *Jaina-Mahārāṣṭrī* got their literary importance, as is indicated by the last two names, from the very ancient but also non-Brahmanical community of the Jainas. Within the Brahmanical literature, the Middle-Indian called Prākrit is mainly limited to the small lyric form and to the drama where, symptomatically enough, it is only used by low-class people. That is the reason why the drama, in spite of important creations in this literary branch, never enjoyed the same appreciation by strict Sanskritists as purely Sanskritic works. But also of the modern Indian it can be said that notwithstanding the much smaller gap of time, he will never develop the same inner relationship with Middle-Indian as with Sanskrit; he will always look at it as an inferior offshoot of Sanskrit and will not go beyond a purely historical interest.

A new linguistic development, significant also for the future, set in at that stage which we usually call the New-Indian. All through the Middle Ages starting-points could be noticed everywhere, but it was only in the 16th century that the dialects appeared in a literary form. However, in order to understand the following development better, we will temporarily leave the Indo-Aryan family of languages and deal with what we can consider to be their very antipole: the Dravidian languages of South India.

The Dravidian language group has had a peculiar destiny in history. Although spoken today by 135 millions (1971) and represented by four officially recognized literary languages with extensive traditions, it has not yet acquired in the Western consciousness the appreciation it actually deserves. Even some professional indologists cannot free themselves from the idea that the Dravidian South is not really anything else but a somewhat remote province of the all-embracing Sanskrit culture. That seems all the more remarkable as Tamil, the great Dravidian literary language of the extreme South, was known and grammatically disclosed to the West by Christian missionaries much earlier than the strictly guarded Sanskrit. But the later discovery of Sanskrit during the period of Romanticism, when it was recognized as a linguistic relative to the European classical languages and as such found to be nothing less than an early stage of one's own cultural development, relegated all that into the background. It is remarkable and seems to indicate deeper reasons for this development that also in the Tamil country itself the ancient literature had to awake again from a thousand years' slumber. Throughout the 19th century the image of Tamil literature was mainly determined by the lyrics of *Bhakti*, poetically beautiful and ardent, but highly influenced by Sanskrit and by the deservedly famous *Tirukkural*, a large collection of two-lined couplets embracing the whole range of life. It was towards the end of the century only that the astonished linguists of the world, through Tamil scholars like *Damodaran Pillai* and *Swaminatha Ayyar* with their untiring zeal in collecting texts, came to know of the existence of a vast, mainly lyrical literature in Old Tamil; a literature which, according to modern research, goes back to pre-Christian times and, through its rich contents and the beauty of its form, ranks with the greatest achievements of world literature. The work of scholarly analysis and wider publication through translations in Western languages is still in progress and, as it is carried out by eminent scholars, is likely to recover in a few decades what other philological disciplines leisurely achieved during a much longer period. In the case of the other Dravidian literary languages, Telugu, Malayalam and Kannada, the development did not prove to be as dramatical. Their classical literature was never lost to the indigenous cultural consciousness. It certainly cannot compete with Tamil, neither in antiquity nor in originality, but it shows from the very beginning a strong lexical and topical dependence on Sanskrit literature. It appears, therefore, appropriate to base the following characterization on Tamil as the most prominent representative of the Dravidian languages.

He, who as a Sanskritist ventures for the first time into the realm of Tamil literature, undergoes a linguistic experience which can be compared to that of a traveller in India coming from one part of the country, already familiar to him, to another: simultaneously he feels like entering a completely different land and yet to walk on familiar soil, namely the Indian. Howsoever justified the claim of original independence, so passionately defended by the Tamilists against India and the world, may be, the outsider nevertheless feels again and again tempted to explain to them how deeply their culture is rooted in the Indian culture, starting from externals like animals and plants described in poetry unto the realms of religion, literature, music, etc. Even if the science of history should succeed in unfolding a prehistorical situation when in the South existed a culture completely unlike the one in North India, it would be without any importance. For already the most ancient texts of Tamil literature bear the distinct Indian character; and in history counts that what became, perhaps even what should have become, but certainly not what happened to be some time or other.

Only with this supposition in mind it is possible to do full justice to the character and peculiarity of Tamil in comparison with the Sanskritic languages. In fact, especially in the field of the language the differences in most ancient times are considerable. That is to be noticed already in the phonology. As against the large frequency of consonants which lends to Sanskrit a somewhat rough sound, the Dravidian languages prefer softer, sonorous phonemes and have a more shaded vocalism so that Telugu, for example, has been compared by Europeans to Italian. The grammatical system of Old Tamil, too, is quite different from that of Sanskrit. Within this paper I cannot give a grammatical abstract, but can only try to show the general characteristics. In the older Tamil it seems essential, that the different parts of speech as substantive, verb, etc., are by far not as strictly divided as in Sanskrit or in our languages, that is the transitions are partly still fluent. Also in the marking of grammatical categories through endings the language does not show the strong consistency of the Aryan dialects. The roots are frequently just put side by side, and the grammatical elements used are of an elegant variability which the old poets well knew how to make use of. Compared to the classically formed finality of Sanskrit, Old Tamil gives the impression of an incompleteness in the best sense, a greater nearness to the origin. Melodiousness and rhythm are not yet, as in Sanskrit, due to the poet's arrangement, but are still inherent in the language as a natural gift. Nowhere this becomes more evident than in the formative principles of Tamil poetry which I consider to be unique in the entire history of literature. Here, too, I have to abstain from detailed exemplification and must content myself with the remark that Tamil, in the formation of poetry, employs all sonorous, rhythmical and even grammatical elements in such a way that, in comparison, the prosody of all other literary languages strikes one as primitive counting of syllables. This finding is not meant to degrade the high poetical art of the Sanskrit poets; there is, however, the fundamental difference that in Tamil content and form are still a unity, whereas in Sanskrit one actually enjoys the poet's success in forcing without harm a lyrical topic, formless by nature, into a sophisticated intellectual verse pattern. And finally also the subject matter of the oldest Tamil poetry is opposite to Sanskrit. Not exalted cosmic visions, as in the Rig Veda, are its contents but the pleasures and sorrows of daily life, sexual love and family, life at court, war and peace are described in a blunt type of realism. No doubt religion, too, has its place, but the fundamental theme is definitely secular and terrestrial.

It is a remarkable fact, much discussed in modern Indology that, in the course of millenaries, the North-Indian languages derived from Sanskrit visibly assumed a series of characteristics which we have to describe as clearly Dravidian. I purposely chose to say "assumed", because the usual philological interpretation of this conformity seems to me incorrect or at least onesided. For it is commonly understood that those parts of the Indo-Aryan tribes who spoke a Dravidian dialect besides their mother-tongue, through the constant use of both idioms, unconsciously took over into their own language peculiarities of the Dravidian which in turn were retained by monolingual individuals as supposedly genuine Indo-Aryan characteristics. Such a process might often have happened at various places, but in a larger context it can assume an inducing function only. Essential innovations in the linguistic life are not likely to occur other than out of an inner urge of the language community in question and not through negligence — even though persistent — of certain population groups. This process, far from resulting in a vague, indifferent mixture of languages, actually is a great testimonial on how at a certain time in the big language communities of India spontaneously arose the necessity to designate common perceptions by the same or by similar means. Moreover, a triumph at the fact that the Aryan languages thus may have become debtors to the Dravidian languages cannot be derived therefrom. It can be said without doubt that the question of a real "dravidisation" of the Aryan languages does not arise; in fact, the essential features of the Aryan languages remained unchanged, and new ones of equal importance were developed devoid of any Dravidian influence. The "dravidisms" of the Aryan languages are, in my view, truly Indian features; a superiority of the Dravidian languages could, therefore, at best be seen in the fact that they have been the first to make these features manifest. But those who care for such a kind of priority should consequently see the enduring brahmanic-hinduistic cultural influence of the North on the South in the same light. That this influence also met with a genuine inner urge is shown by the wonderful creations of art and poetry it inspired, creations belonging neither to the North nor to the South alone, but to the whole of India.

We shall conclude the comparison of Sanskrit and Tamil by referring to a remarkable difference, the discussion of which by itself will lead us to the New Indo-Aryan which we temporarily set aside in favour of Tamil. The history of the Sanskritic languages can clearly be divided into sharply separated periods. While the distinction between Sanskrit and Middle Indo-Aryan is already remarkable, the New-Indian languages such as Hindi and Bengali are so completely different from them in their grammatical structure, and most of the words have phonetically changed to such a

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degree that often only a philologically trained eye can recognize them. The modern Indian of the North has to learn Sanskrit as a foreign language just like the French is learning Latin or the German Old High German, even though the numerous Sanskrit words which later on penetrated into the popular dialects are of considerable help. In Tamil it is different. Of course, the Tamilian of today, if not specially trained, is far from being able to understand a poem of the oldest period. But, in spite of many alterations, the basic character of phonology and grammar has not been transformed to such a degree that a modern Tamilian could not say with some justification that, after all, he was speaking the same language as of 2000 years ago, a statement which would mean complete nonsense if made by a Hindi or Bengali speaker. This continuity was mainly achieved through the strongly conservative character of the elevated literary language which, for a long time, has no more absorbed the innovations of the dialects and of the general colloquial Tamil language.

It is obvious that such a compactness in space and time as was granted to the Dravidian must have had a favourable effect on the formation of the linguistic culture; but it is also to be realized that, in the long run, it may imply serious dangers to the actual life of the language. For the situation of India's extreme South holds good for its language as well: the South had remained almost totally spared from the brutal invasions and violent upheavals which had afflicted the North for centuries and, therefore, could indeed enjoy an uncommon continuity of cultural development; but at the same time it failed to undergo foreign influences and fresh impulses which can stimulate new ideas and developments. And again it is not to be taken as an attempt to raise quantitatively one language above another, if I say that, through the hard school of the Muslim period, the North Indian languages have acquired advantages which have been denied to the Dravidian South. That is nowhere more obvious than in Hindi which we may, therefore, analogue to Tamil for the Dravidian languages, be permitted to deal with as representative for all the other Indo-Aryan languages.

First of all, we have to point out the most significant and to some of us perhaps surprising fact that, at the beginning of the 19th century, the present Hindi did not yet even exist. Its place was held by Urdu which, because of the recent developments, becomes more and more confined to Pakistan. Modern propagators of Hindi remember it rather reluctantly as the true forerunner of their own language. From time to time they even succumb to the temptation of disregarding altogether this witness

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of a supposedly illegitimate past. However, as the political and cultural history of the Indian Muslims constitutes an inseparable part of the history of India which cannot be manipulated away, thus the true, inner history of the North Indian languages cannot be understood without a close consideration of Urdu. Even the name is significant: Urdu actually means "camp", an indication as to how this language did not evolve in a steady and gradual development among a sedentary population, but as the mixed idiom in the military and court domains of the Muslim conquerors. Its base was provided by the popular dialect of the Delhi region which, like the other Indo-Aryan languages of North India, had developed step by step from Sanskrit through the Middle-Indian languages. But this dialect could only furnish the grammatical skeleton and the most colloquial words of daily life; the majority of the vocabulary, especially all words for abstract concepts of a higher educational level, were taken, along with the Arabic script, from Persian which in its vocabulary was itself a blend of true Persian and Arabic loan-words. The result of this mixture was a strange creation, naturally void of any compactness and unity of linguistic perception. The genuine Persian words were still somehow related to the language conception of North India; but the Arab words built according to an abstract, semitic system were in their diversity ultimately bound to remain unintelligible to the Indian. They were dead insertions of purely denotative character; in the predominantly Indian stream of the language they could be moved from outside but never be filled with life from within.

As member of the Western cultural sphere, where the idea of linguistic purity has long played a role before being imported into India, one would be hesitant to assign great cultural possibilities to such a mixed idiom. But two things are true: firstly, Urdu — possibly because it was forced to assimilate foreign material en masse for its daily use — has developed an elegance and skill in expression which perhaps no other Indian language could have produced. And, secondly, the formation of Urdu is an early example of a process which in Europe, on a large scale, had occurred in the case of English and which stands at the beginning of an entirely new period in the linguistic history of mankind. In the ancient languages vocabulary and grammar still form a unity; the same force which builds the system of endings and prefixes has also a formative effect on the roots and subjects them to certain limitations in volume, phonological structure etc. German, with its monosyllabic roots, its vowel gradation and its transparent etymological structure which in all genuine German words extends right into the single syllable, is still of that type and hence related to Sanskrit and Tamil. With the increasing separation between form and content in the intellectual life in general, and with the daily growing necessity of modern specialised life to coin appropriate words for new concepts, the older type of language gets into ever increasing difficulties. The formation of Urdu may not have occurred without violence, and many peculiarities dear to the older cultural consciousness may have gone lost in the process — but, by separating the language into a flexible, analytical grammar, worked out in the native popular dialect and into a vocabulary, diffuse in its origin but enlargeable at will and completely independent from morphology, Urdu has set an example which was to make an impact on the history of Indian languages. What was, however, the progressive achievement of Urdu at the same time became its tragedy. For the nearly inexhaustible word-reservoir out of which the elevated language drew its requirements belonged to a cultural unity outside India. That civilization, from the very beginning, consciously took front against the original Hindu culture and, in spite of temporary close approximations, could never have been assimilated as an organic component into the Indian culture without having betrayed its fundamental principles. Thus Urdu was more or less dependent on the political position of the Muslim conquerors. When after partition the Muslims became a minority in India, though certainly a powerful and culturally influential one, the importance of Urdu began to decline. Hindi, the *rāṣṭrabhāṣā*, the "national language", became more and more predominant and has finally set about to expel Urdu from its hereditary positions.

To describe the adventurous career of Hindi will probably be possible only in some future time to come when one can roughly visualize whereto the path just entered upon will lead and when the thick mist of emotions will have somewhat faded away. As has once been said of the United States that they are the only nation built entirely on an idea, thus Hindi may be celebrated one day with equal justification as the first language essentially born out of an idea. During the whole of the 18th century for the Hindus of middle Northern India the recognized literary language was still *Braj bhāṣā*, an Indo-Aryan dialect basically closely related to modern Hindi. Its geographical centre was the region of Mathura, the scene of important events in the life of Krishna. Like most of the earlier stages of the New Indo-Aryan languages, Braj had produced a rich devotional literature, but was still in want of the polish and fluency necessary for modern social communication as had been developed for Urdu at the splendid court and within the administration of the Moghuls. What could have been more natural than to indianize Urdu by the very same means by which it had itself been created? This decisive step was taken in the first half of the last century through an initially very small group of intellectuals influenced by patriotism and Hindu thought. Far away from the actual language of the broad masses they systematically replaced the Persian-Arabic elements by suitable Sanskrit words. Peculiar as this rather plain method of the early pioneers of Hindi may appear, it has been justified by the later development, and even more perhaps than they themselves dared to hope for: we read that one of the first champions of Hindi in fact held the new language to be suited for prose only; verses, in his opinion, should continue to be composed in *Braj bhāṣā*!

These remarks are, however, not meant to advocate the theory that Hindi must sanskritize its vocabulary as much as possible. The concern, lastly, is not to rely, for nationalistic or other non-linguistic considerations, on certain classical languages as the only source for linguistic innovations. It is rather the release of the vocabulary as a whole which is of utmost importance. Nothing can do more harm to the normal development of the language than to replace, for the sake of an abstract principle, a handy, fully naturalized word from Urdu or English by an artificial, sanskritized monster. An idea of the dangers inherent in such a onesided purism can be got from the modern development of Bengali which we will now deal with as the last language to be discussed here.

Bengali, distinguished from most of the North Indian languages by a special melodious sound, has experienced continuous literary attention since the end of the 15th century. The topics were exclusively religious; Sanskrit words were amply used, but they resulted out of a natural contact and not, as later, out of a conscious, puristic act. This became quite different when, at the beginning of the last century, the need for a prose language arose which was to suit modern conditions. Now a mass invasion of neologisms began which, in fact, would give a modern newspaper text a purely Bengali character and thus seemed to justify the proud claim of the Bengali that his mother-tongue was "the most developed language of India". But on closer observation most of the new expressions clearly prove to be only Western concepts, adopted without any alteration and put into an Indian garb: the concept as such has not grown with its form. I do not want to blame here retrospectively as a mistake, what as a grand scale historical process is already behind us — apart from the fact that similar neologisms are still coming up in Hindi circles today. But the comparison is instructive, because the Bengali development has by now reached a kind of conclusion and, therefore, allows certain predictions as to the future of the Hindi language. Let me take up only one out of the many problems presented by Bengali which, in my opinion, comprises all the others; the social problem. The broad masses, being subjected to the objective outer and inner requiremens of communication through speech, cannot keep pace with the zeal of the linguistic reformers who are socially limited to certain classes. The result necessarily is an ever increasing gap between spoken and written language. No doubt, the imposing development of the new Bengali literature, a forerunner to the whole of India which culminated in the highly admired life-work of Rabindranath Tagore, would not have been conceivable without this somewhat impassioned renewal process. However, it should not be overlooked that sensible Bengalis suffer from the deep gap between *sādhu bhāṣā*, the "good", i.e. the standard language and *colit bhasa*, the "current", i.e. the colloquial language, and that they are trying to bring both the extremes closer together.

We are at the end of our short survey. The question may now arise what practical application can be drawn from it with regard to the demand for a qualitative way of thinking raised at the beginning. My reply would be that the answer has probably been given by the foregoing characterizations, if they at all succeeded in conveying the essential. The considered view of Wilhelm von Humboldt that a single language can never realize all imaginable advantages at a time, but has to take a choice from them, is also true for India. Because of their distinct individuality her languages are destined to form an organic unity; they are created for each other, not against each other. An essentially spiritual phenomenon as the language can only flourish in an atmosphere of understanding and love. Certainly, the idea of a uniform, compulsory national language, which was imported from Europe together with the concept of a centralistic-mechanistic national state, is tempting. More than any other peoples, however, the Indians with their great spiritual tradition can be expected to see through such a petty, rationalistic way of thinking, and to recognize that the languages themselves are living entities which begin to speak only when the individual human being with his paltry egoistic desires and claims is silent.

CLASSIFICATION IN INDIAN ICONOGRAPHY

BY

KLAUS BRUHN (Berlin)

While going through the pages that follow, the reader will not only experience the general difficulties caused by all discussions of an abstract nature. He will also be faced with a more basic problem. The reader may ask whether concepts — as they are supplied, discussed and analysed in the present article — are really instrumental to research or merely reflect the meandering thoughts of a theorist. On a previous occasion we have already emphasized that highly technical concepts are in other disciplines part and parcel of research. Here we would like to add that in certain areas of Indian iconography (e.g. in the case of "blurred" iconographic programmes found in compositions with miniature figures and elsewhere) the conventional tools of research — identification etc. — are not sufficient. Starting from this consideration, we can go one step further and ask whether present research pays equal attention to all parts and aspects of Indian iconography. This is hardly the case. As a rule, figures with literary background take precedence over figures without it, clear iconographic programmes over unsystematic programmes, the "great" gods and goddesses over the minor members of the pantheon, gods *carrying such and such attributes* over attributes *belonging to such and such gods.* To this limitation in scope corresponds the limited theoretical apparatus. Therefore, widening of the scope would imply the employment of new tools of research — and vice versa. We hope we shall succeed at last to some extent in making this statement plausible.

Previous studies have paved the way for the present contribution. They were published between 1956 and 1976 (*Khajurāho*, *Distinction*, *Deogarh*, *Repetition*, *Pārśvanātha;* bibliographical details in § 4). The article as such emerged from a study of specialized problems in the field concerned, but later on the emphasis shifted from the material to the method. The pictorial presentation is kept to a minimum. The reader will, however, find rich photographic material in a study on Kṛṣṇa iconography published recently by U. P. SHAH (Baroda). Besides, the author would like to emphasize already at this stage that photographs liberally supplied by colleagues (only a few could be published here) helped to lay the foundations of the article. The acknowledgements will be found in § 4, and an explanation of terms is given in § 6.

§ 1. CLASSIFICATION IN GENERAL

[1]

§ 1.1 Subjects (terms)
  A. Concrete
  B. Abstract
§ 1.2 Variables
  A. Pseudo-divisions
  B. True divisions
§ 1.3 DIVISIONS (and related problems)
  A. DIVISIONS (general)
  B. Stones and verses
  C. ad hoc divisions
§ 1.4 Terminology
§ 1.5 Completeness

§ 1.1 *Subjects*

A glance at the index of a book will show that the terms indexed differ in their character, or to be more precise, that they differ *as* terms. In the case of Indian iconography, we would say that names of gods (Śiva, Lakṣmī etc.) are *concrete*, while terms like "syncretism", "multiplication of limbs" are *abstract*. In the case of a book on caste, the distinction between names of castes (Brahmin, Kayasth etc.) and structural features (endogamy, commensality etc.) would supply an analogy if not a parallel. Studies in Indian iconography employ abstract terms but rarely. To demonstrate this and to bring out the difference more clearly we shall supply a few more examples. The number of concrete terms is of course almost unlimited: Members of the pantheon (Śiva, Lakṣmī, Buddha, ···), objects carried in the hands (lotus, trident, disk ...), mudrās or gestures of the hands (abhaya, varada, vyākhyāna ...), figures without individual names (garland bearers, chowry bearers, vyālis ...), special compositions (caturmukhalinga, tritīrthikā, pāduka ...). Abstract terms, on the other hand, are rare and mostly restricted to the vocabulary of individual authors: künstlerische Typen (= art types, A. GRÜNWEDEL), surmounting images (L. A. WADDEL), stock of types (A. K. COOMARASWAMY), syncretistic icons (J. N. BANERJEA), parallels and opposites (C. SIVARAMAMURTI), dieux polyvalents (M.-TH. DE MALLMANN), type/system/attribute/form-principle (*Deogarh*, Chapters 20-23).

The term "Vaiṣṇava iconography" is more *general* than "Viṣṇu iconography". Similarly "attribute" is more general than "hand-attribute". This difference crosses that between concrete and abstract. The movement from the general to the particular is present in any classificatory operation. ——— Again the character of classifications seems to be the same in the case of *concrete* and in the case of *abstract* subjects, although the latter belong to the sphere of concepts and are not available from the beginning.

§ 1.2 *Variables*

Variables are a simple method of organizing information, and forms to be completed are amongst the best known examples (male/female; age; children/no children). But strictly speaking such elements are not only common, they are omnipresent. Scientific nomenclature bears ample testimony to this (singular/plural in grammar, monotheism/polytheism in the history of religions). Consequently it is only the problem of systematic employment that deserves our attention. It is obvious that Indian iconography should pay attention to the varying numbers of heads and arms, but the systematic distinction between the three-headed deity and the four-headed deity is a different matter. — Like many formal discussions, observations on the subject of variables can only be introduced by recalling a few commonplaces. A *variable* has two or more *values* (children/no children; age). Completeness is normally essential, and this can be secured by yes-or-no statements (children/no children), by a category "other cases", or by complete enumeration of all the individual cases. The nomenclature may be based on the variable (age), on the values (children/no children), or optionally on both (married/unmarried, marital status). The *subject* (Śiva etc., syncretism etc.) presents no problems.

The variable concerns points of detail (e.g. colour of the eyes) or complex features (e.g. colour in the racial sense). A fairly analogous distinction in iconography would be that between two-four-(six etc.) arms on the one hand and Hindu-Buddhist-(Jaina etc.) deities on the other. We shall use in *both* cases the term "division" qualified by the attributes "pseudo-" and "true" respectively. A pseudo-division is just a *value* in the sense described above, whereas a true division (Hindu-Buddhist-Jaina etc., Viṣṇu-Śiva-Lakṣmī etc.) combines several features. It seemed, however, practical to bring all sorts of divisions together (there are border-line cases like the "three headed deity") and to place special emphasis on the concept of variable, more particularly on variables producing pseudo-divisions. Pseudo-divisions are, on the one hand, an "Ersatz" for true divisions (i.e. classes) whenever lack of concomitance makes it impossible to arrange the material in well-defined compartments (see § 3). On the other hand, they serve some special purposes. Two cases ("crossing oppositions" and "description through transformation") shall be discussed now (pp. 29-30).

Terms like "narrative panels" on the one hand and "images", "iconoplastic art" on the other suggest that we have two well distinguished types of representation: one more dynamic and emphasizing individual incidents, one more static and showing a god or goddess under a more general aspect. As soon as pseudo-divisions are employed, the language becomes clearer; the single opposition is replaced by a group of oppositions and it is seen (in most cases) that these oppositions are crossing. That a panel shows more than one episode (or more than one phase of an episode) does not mean that the representation is full of life and truly narrative; that a panel shows but one episode does not mean that it is stiff. We find panels with several episodes, each following a conventional pattern. They may almost take the shape of ideograms and appear on the slab like different punches on a coin. By contrast, a panel showing a single episode may be full of life and it may depict a specific event in a convincing manner. In the abstract language required for pseudo-divisions we have to employ expressions of the following type: panel showing one episode/panel showing two or more episodes; rendering spirited/stiff; formula conventional/untypical. See also § 3.

"Description through transformation" *divides* an iconographic statement (i.e. a sentence) into a number of units in order to replace certain units by others. Below we give examples for the division as such, assigning identical numbers to corresponding units (i.e. to the values belonging to the same variable):—

> Viṣṇu (1) generally (2) carries (3) a mace (4).
> Śiva (1) is sometimes (2) seated (3) on his bull Nandin (4).
> A Jina (1) never (2) carries in his hands (3) any objects (4).

A demonstration of the process as such is given below. We have selected a problem from Jina iconography: the confusion arising from the artists' inconsistent employment of the attribute "strands", which distinguishes in theory the Jina Ṛṣabha (No. 1 in the series of the 24 Jinas) from the remaining 23 members of the series (compare *Deogarh*, § 265). It would appear that a precise description of the facts is best achieved through the following transformation:—

> JINA-IMAGES *with hood-circles* (snake-hoods forming a sort of halo behind the head, found with Jinas Nos. 7 and 23) show treatment of the hair (curls, strands) according to formulas A, B, C ...
> JINA-IMAGES *with the bull symbol* (Jina No. 1) show treatment of the hair according to formulas A, B, C ...
> JINA-IMAGES *identified by their symbols etc. as showing Jinas other than Nos.* 1, 7, *and* 23 show treatment of the hair according to formulas A, B, C ...
> JINA-IMAGES *without hood-circles and without symbols* show treatment of the hair according to A, B, C ...

In each of the four cases, *one or more* formulas may be available. The best-known formula for the treatment of the hair are the curls which form the typical hair-dress of the Buddha.

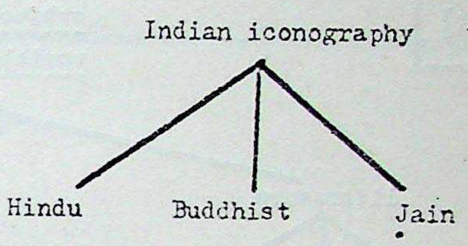
§ 1.3 *Divisions*

In the preceding discussion, the word "division" was used in the sense of a specific unit (value, class). It can, however, also be employed to designate the *process* of forming classes etc., and in this latter meaning (which is under consideration in the present section) we shall write the word invariably in capital letters. The term DIVISION will cover at the same time the structure in its entirety which is graphically represented as a tree (tree graph, stemma).

If the structure has only two planes, we prefer the presentation in lines to the tree formula:—

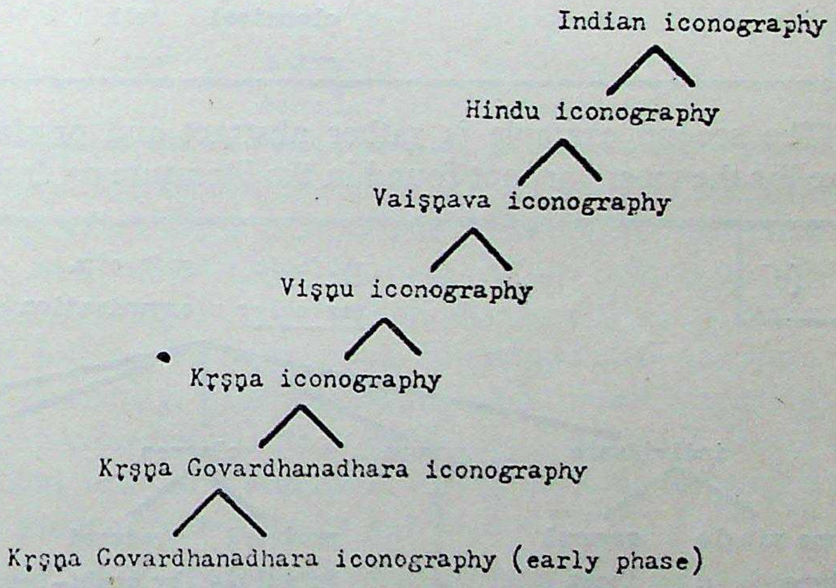
[2]

(1) Indian iconography (subject)
Tradition (variable)
(a) Hindu (value)
(b) Buddhist (value)
(c) Jaina (value)


Indian iconography
Hindu
Buddhist
Jain

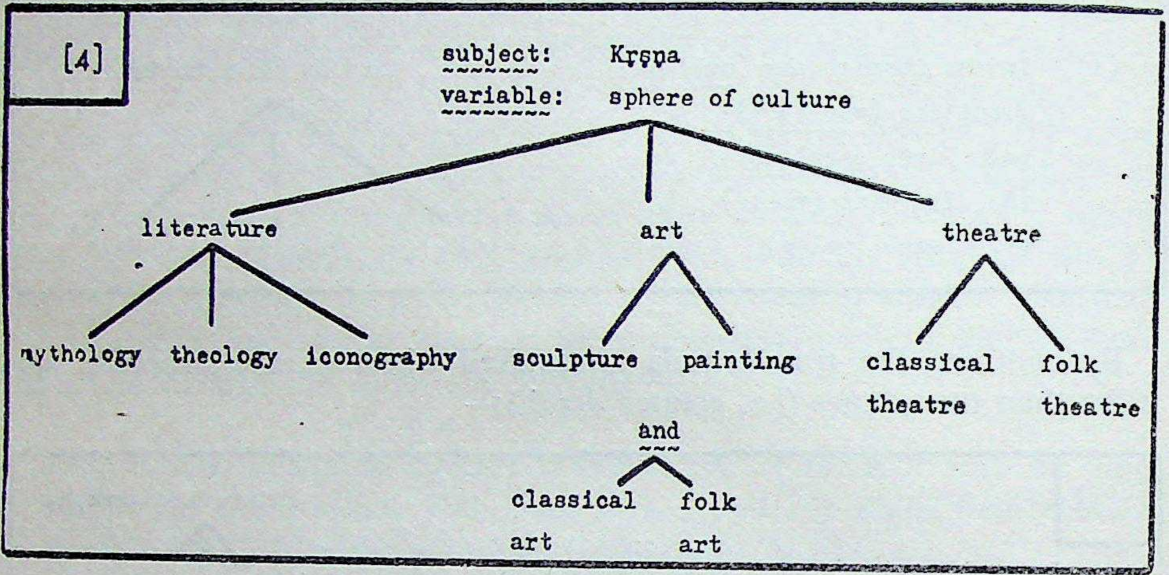
By contrast, the tree-formula is required whenever the structure has more than two planes (i.e. greater depth):—

[3]


Indian iconography
Hindu iconography
Vaiṣṇava iconography
Viṣṇu iconography
Kṛṣṇa iconography
Kṛṣṇa Govardhanadhara iconography
Kṛṣṇa Govardhanadhara iconography (early phase)

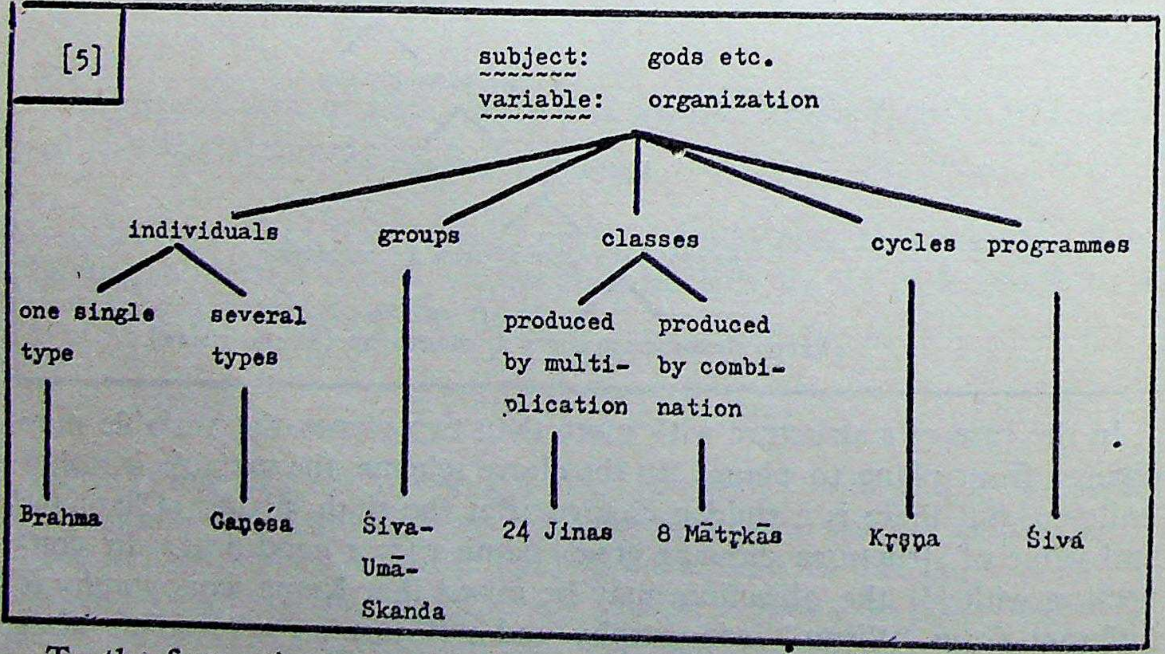
In the case of a structure with more than two planes the variable may change from plane to plane. In the above scheme, the variable is rather uniform, but there is a sudden change after the sixth plane. Character and value of structures showing great depth vary a good deal. In connection with [3] the objection may be raised that Kṛṣṇa iconography is different from “Viṣṇu” iconography and not just a subdivision of it (see § 3). Thus it might be better to exclude Kṛṣṇa iconography from Viṣṇu iconography and to consider only forms of Viṣṇu which are closer to the standard type (Varāha in his therio-anthropomorphic form, Trivikrama, and so on). In spite of such problems we supply two more examples for DIVISION with more than three planes. The first example transgresses the boundaries of iconography:—

[4]


subject: Kṛṣṇa
variable: sphere of culture
literature
art
theatre
mythology
theology
iconography
sculpture
painting
and
classical art
folk art
classical theatre
folk theatre

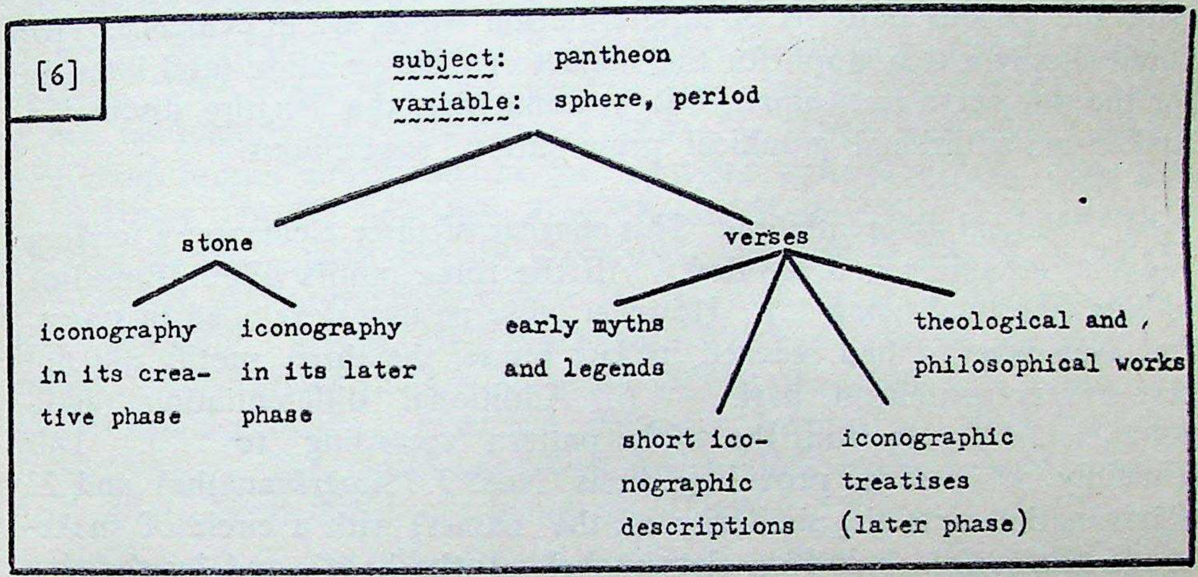
The second example is rather abstract and produces divisions which are for the most part not found in the literature on Indian iconography:—

[5]


subject: gods etc.
variable: organization
individuals
groups
classes
cycles
programmes
one single type
several types
produced by multiplication
produced by combination
Brahma
Gaṇeśa
Śiva-Umā-Skanda
24 Jinas
8 Mātṛkās
Kṛṣṇa
Śivá

To the fore-going remarks we shall add an excursus touching upon a specialized problem. Identifications are expressed in sentences of the following type: This *is* the Jina Ṛṣabha, this image *shows* the Jaina goddess Apraticakrā. Such statements do not present any problems as long as the sculptor expressed in stone what the poet expressed in ślokas or verses. However, agreement of this uncomplicated type cannot always be taken for granted. Various spheres are involved which may but need not be in harmony:—

[6]


subject: pantheon
variable: sphere, period
stone
verses
iconography in its creative phase
iconography in its later phase
early myths and legends
theological and philosophical works
short iconographic descriptions
iconographic treatises (later phase)

As a consequence, there may be disagreement of one type or the other. But even agreement may only reflect what can be described as "deceptive harmony". Thus the well-known motif showing Viṣṇu resting on the coils of the serpent Ananta is apparently "in complete agreement with the texts" (Mbh. 3.272.26 foll.). However, such an unqualified assertion would imply that the similarity with the earlier nāga motif (standing human figure with snake-coils behind it) is accidental. It would therefore be better to say that texts and sculptural representations converged at a point which was predetermined by an earlier motif.

We already indicated that DIVISIONS are different in character. We may even say that they depend largely on the phantasy of an individual author as well as on the requirements of a specific case. Below we shall try to supply divisions (we may say: ad hoc divisions) for the classification of the 24 Jinas.

The dominant element in Jaina mythology and iconography are the 24 Jinas (mentioned already), which resemble one another, both in literature (24 biographies) and in art. They are represented in meditation, standing or seated (this posture is called in Prakrit kā'ussagga).

They never carry any objects in their hands. The differentiation between the 24 membes of the series is meagre and not very consistent (see p. 30 above), the result being some disproportion between the uncomplicated (but unfortunately irregular) procedure of the artists and the painstaking investigations which impose themselves on the modern scholar. Before we discuss the possible classifications of the 24 Jinas we shall try to describe the various patterns of differentiation which are in evidence. We could supply a tree graph for the subject of differentiation (and later on for the subject *classification*), but it seems that the lengthy discussion makes an additional graphical presentation superfluous.

(i) Minimal differentiation. This consists of three elements: attending goddess, attending god, symbol. All the three motifs differ from Jina to Jina (the total being 72). However, this pattern developed in stages, and even when it had reached its last phase, the three motifs did not play a very prominent part. — (ii) Additional differentiation (additional, i.e. differing from the triple pattern according to "i"). This is mainly achieved by providing Jinas Nos. 7 (Supārśvanātha) and 23 (Pārśvanātha, note the similarity of the names) with a circle of snake-hoods (forming a halo-like element behind the head), and by showing Jina No. 1 (Ṛṣabha) with strands — instead of or in addition to the familiar curls which the other 23 Jinas have in common with the Buddha (but see p. 30 above). — — — (iii) Pseudo-differentiation. Jina-images belonging to different periods and regions naturally differ in their style as well as in iconographic details. Thus Jinas in the South have their legs placed one upon the other, while the Northern Jinas sit with their legs crossed. Such cases are not under consideration. The term "pseudo-differentiation" can only be applied to cases where Jina-images of the same time and region, of the same temple, or even of one and the same composition (depicting several Jinas side by side) show conspicuous iconographical differences which have no connection with the identity of the individual Jinas. One of the best examples is the motif below the Jina. Normally, seated Jinas are shown on a lion-throne, standing Jinas on a lotus. This distribution pattern is, however, often ignored. Even here it is unlikely that the difference is misunderstood as pointing to differences in the identity of the respective Jinas. It is only in special cases that differences can create misunderstandings (so that the term "pseudo-differentiation" becomes appropriate). A slab at Deogarh (*Deogarh* Fig. 27) shows superimposed rows of seated Jinas, each Jina being shown on a lion-throne. The miniature images (Jina, attendant figures, etc.) are almost identical in their *upper* portions, but the throne motif follows several distinct formulas. This is no problem for the scholar, but the amateur may surmise that the different formulas are "cognizances" (compare the symbols according to pattern "i") of different Jinas. — (iv) In a small number of cases, distinction between true differentiation and pseudo-differentiation becomes a genuine problem. We are referring to the "double symbol" and to "Balarāma-plus-Vāsudeva". The double symbol can sometimes be understood in two ways. Thus the double *lion* may stand for the lion-throne, or it may be the doubled symbol of the 24th Jina (Mahāvira). In the first case it is "heraldic" in the sense of being a specific motif without specific *attribute value* (this applies both, to the double lion and to the fully fledged lion-throne); in the second case it is a true attribute. Again, Balarāma-plus-Vāsudeva may be heraldic elements, *or* attributes (in the sense of "ii") of the 22nd Jina Neminātha (there is a legendary connection between Neminātha, Balarāma, and Vāsudeva). — The motifs discussed under "iv" have been studied by U.P. Shah, N. P. Joshi and M. N. P. Tiwari.

The survey of the different means and methods of differentiation already indicated that the treatment is not uniform. And a classification following the theological system (24 Jinas in the texts and hence 24 Jinas in iconography) would be unsatisfactory in more than one respect. We therefore have to look for other solutions.

A simple and yet absolutely unproblematic classification is the following: [i] Jinas with hood-circle (Nos. 7 and 23), [ii] Jinas without hood-circle (all the remaining members). If the *strands* are taken into consideration, an enlarged scheme is obtained: [i] Jinas with hood-circle (and without strands), viz. Nos. 7 and 23; [ii] Jinas with strands (and without hood-circle), viz. No. 1; [iii] Jinas with neither — 2-6, 8-22, 24. But this second scheme is correct only if we distinguish between "true" strands (to be considered) and strands as a heraldic motif (to be ignored in this connection). Strands of the latter type are rather indistinct, being a reduced or blurred variant of the true strands. This already indicates a difficulty, and there are other problems as well. It would nevertheless appear that the second scheme has the greatest practical value.

This is at least true as long as the number of Jina-images to be classified is limited (catalogues, monographs, etc.). For a more general survey we propose the following classification which ignores identity altogether and considers only iconographical variety. — [i] Jinas with rare forms of the hood-circle and/or additional Nāga motifs (the hood-circle is an abbreviated single or double Nāga); [ii] Jinas with conspicuous strands (or other unusual hair formulas); [iii] Jinas with "additional differentiation" (see above) other than differentiation by hood-circles and strands; [iv] Jinas with conspicuous "minimal differentiation" (see above); [v] local and regional peculiarities; [vi[characteristics linked up with differences in the "type" (motifs connected with seated and standing, small and big Jina figures). — [The examples:] [i] *Deogarh* Figs. 338-341; [ii] *Deogarh* Fig. 82; [iii] JISOA, New Series, 4.1971/2, Pl. 18 (demons attacking Pārśva); [iv] *Indian Art* (Victoria and Albert Museum), London 1969, Pl. 18 (Pārśva); [v] see p. 34 above on the different postures of the legs; peculiarities may also be restricted to local schools or to individual images — for an apparently unique feature ("resting queen" below the lion throne) refer to *Bull. Prince of Wales Museum of Western India*, 5. 1955-57, Pl. 11b; [vi] pp. 34-35 above (on seated and standing images) and *Deogarh* § 298 A.—The "double symbol" and "Balarāma-plus-Vāsudeva" are covered either by [iii] or by [v]: see *Jain Journal* 8, 2 (Oct. 1973), pp. 84-85 (B.-V.), and U. P. SHAH, *Studies in Jaina Art*, Fig. 18 (double symbol).

§ 1.4 *Problems of Terminology*

Experience shows that systematic arrangement of categories ("abstract subjects") is difficult. The commonest method is the presentation of a comprehensive system where the responsibility of the individual category is reduced by the presence of the entire structure. This author tried repeatedly to follow a different method, establishing rather comprehensive categories which occupied an intermediate position between an all-embracing system and a small category. "Reduction of distinctions", "form-principles", and "repetition" were the main examples (see *Distinction*, *Deogarh*, and *Repetition*). But, on account of their looseness, such comprehensive categories are neither convincing (the reader misses uniformity and compactness) nor very practical for the author (who has to fit a system of sub-categories into the main category).

The problem can be solved by reducing the scope of the main category to some extent. I.e. its scope should not be too limited (this would again

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necessitate organization on a higher plane by the construction of a comprehensive system), and not too extensive (problem of loose categories just described). An intermediate and balanced category might be repetition-within-a-composition (forming actually the starting point for the article on *Repetition*), repetition-in-general being too wide, and repetition-of-figures (to mention just one example) being too narrow. The accentuation of such modest categories as *areas of organization* does of course produce the problem of overlapping (e.g. repetition-within-a-composition vs. symmetry). But this is probably unavoidable, and — as far as the technical aspect is concerned — we can solve the problem by adequate devices (cross references etc.).

Although we prefer in theoretical discussions the word "category", it would appear that for practical purposes "term" is preferable. Hence the title of this paragraph.

§ 1.5 *Completeness*

Classification is connected with "completeness" both on the logical and on the factual plane. On the one hand, studies in classification produce more and more structural material (see our graphs). On the other, the numerous divisions attract and absorb factual data which otherwise would remain unsurveyed. Documentation implements the classificatory efforts on the factual plane, classification as such coordinates "known" but incoherent facts.

The opposite of completeness is selection. Selection may be called a vehicle of ideology, while completeness tends to disarrange the ideal landscape produced by the selective activity of our intellect. From the point of view of their respective opponents, completeness and selection are virtually isms. And it is in fact easy to lable *completeness* as an ism as long as the line of demarcation between completeness and senseless collection of facts is wiped out. The violent attacks on what is commonly called "collection of facts" nevertheless show that the supporters of selection are not unaware of the theoretical difficulties which they have to face.

§ 2. CLASSIFICATION IN VIṢṆU ICONOGRAPHY

Viṣṇu iconography shows a remarkable lack of uniformity. Not in the general sense that the "great gods" have always "many forms", but in the more specific sense that Viṣṇu iconography does not form a well defined area within the larger field of Hindu iconography. Before supplying a structural analysis of the *Kṛṣṇa iconography* we shall, therefore, try to X-ray -- not specific forms of Viṣṇu but the entire area connected with his name.

"Viṣṇu" has absorbed various theriomorphic concepts, and as far as the human element is concerned we find what may be called typological syncretism: Viṣṇu as a Yakṣa, as a king, as a yogin, as a demon-slayer. Adopting an approach which is basically synchronic, we shall arrange the material in concentric circles, starting with the innermost circle: —

(i) Viṣṇu in human form, four-armed, carrying in three of his four arms "conch", disk, mace (śaṅkha-cakra-gadā-dhara: N. P. JOSHI).

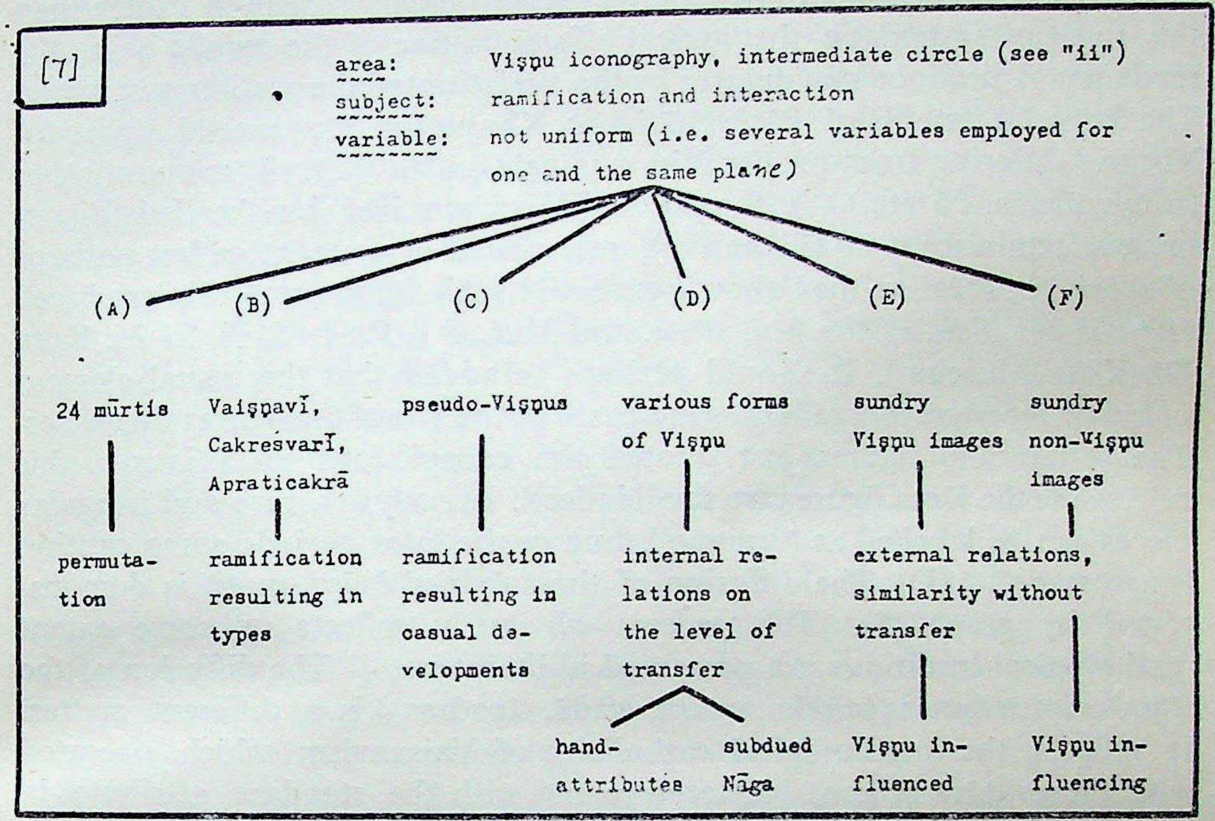
(ii) Visnu in various anthropomorphic and therio-anthropomorphic forms: —

(A) Viṣṇu 2-armed (N. P. JOSHI); (B) śaṅkha-cakra-gadā-dhara, 4-armed, standing; (C) śaṅkha-cakra-gadā-dhara, 4-armed, seated on Garuḍa; (D) Viṣṇu resting on the Nāga Ananta (or Śeṣa : Anantaśayana, Pauṣkarāvatāra); (E) Viṣṇu seated on a Nāga (compare Akrūra's vision); (F) Viṣṇu meditating (padmāsana, yoga-mudrā); (G) Lakṣmī-Nārāyaṇa; (H) therio-anthropomorphic Varāha; (I) therio-anthropomorphic Narasiṃha (several subtypes); (K) Trivikrama (several subtypes); (L) Vāmana; (M) Kṛṣṇa Govardhanadhara; (N) Kṛṣṇa Kāliyadamana (several subtypes) — "-damana" always in the sense of "-jit" (denoting the agent as in Govardhana-dhara); (O) Kṛṣṇa Veṇugopāla. To this we have to add what may be called the "Vaikuṇṭha complex": Viṣṇu with three heads and further elaborations of this syncretistic motif.

(iii) The outermost circle includes the following additional types: — (A) theriomorphic representations of fish, tortoise, boar, and lion (normally accompanied by Viṣṇu attributes); (B) churning of the ocean (amṛtamanthana); (C) Nara-Nārāyaṇa (so far only found at Deogarh); (D) Balarāma, Rāma Dāśarathi, Kṛṣṇa (except Govardhanadhara, Kāliyadamana, Veṇugopāla).

To supplement the scheme we add the following category, the character of which is defined by the examples given: (A) Vāsudeva and Balarāma; Vāsudeva, Balarāma, and Ekānaṃśā (N. P. JOSHI); (B) Hari-Hara; (C) Sūrya-Nārāyaṇa; (D) Hari-Hara-Pitāmaha; (E) 10-avatāras.

In order to demonstrate how the problem of form-principles can be handled without unnecessary theoretical commitments, we have prepared the following scheme which is given in the form of a tree graph.


[7]
area: Viṣṇu iconography, intermediate circle (see "ii")
subject: ramification and interaction
variable: not uniform (i.e. several variables employed for one and the same plane)
(A)
(B)
(C)
(D)
(E)
(F)
24 mūrtis
Vaiṣṇavī, Cakreśvarī, Apraticakrā
pseudo-Viṣṇus
various forms of Viṣṇu
sundry Viṣṇu images
sundry non-Viṣṇu images
permutation
ramification resulting in types
ramification resulting in casual developments
internal relations on the level of transfer
external relations, similarity without transfer
hand-attributes
subdued Nāga
Viṣṇu influenced
Viṣṇu influencing

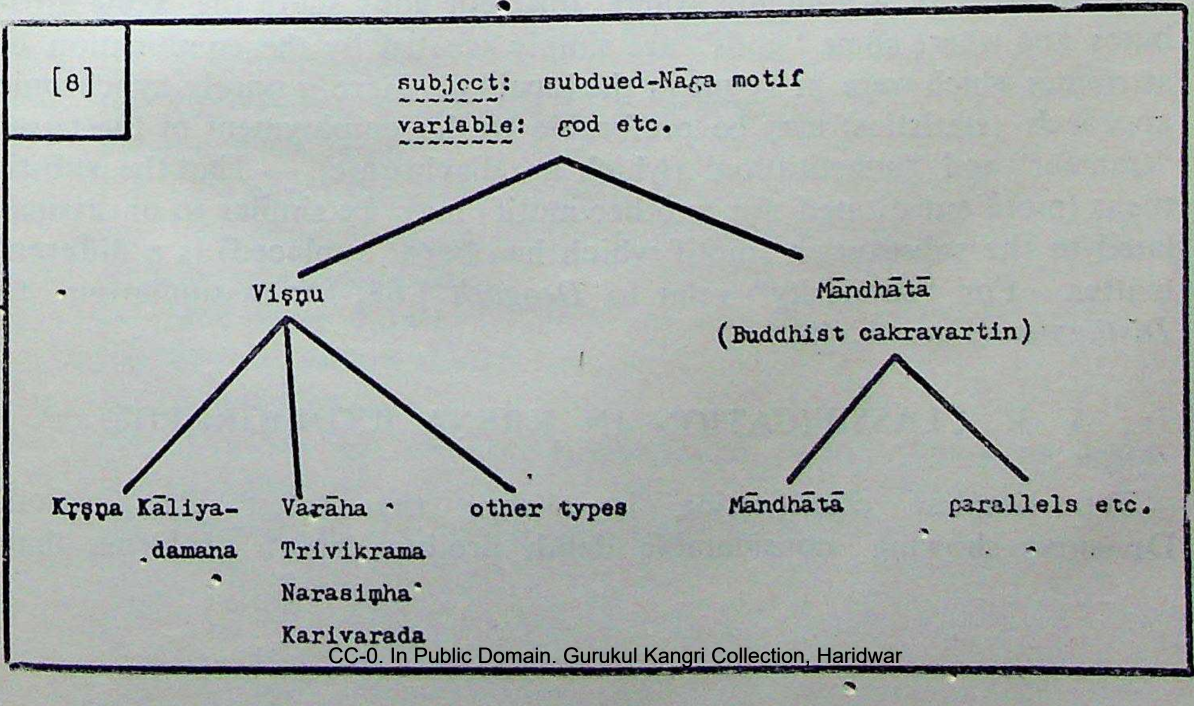
We have placed the examples above the various divisions (permutation etc.) as we wanted to show that the structure of the scheme depends in most cases on well-defined phenomena in the field of Viṣṇu iconography. Further observations (and references) are given below.

(A) Theoretical texts attach considerable importance to the twenty-four different forms of Viṣṇu obtained by the twenty-four possible permutations of four hand-attributes (śaṅkha, cakra, gadā, padma [lotus]), but a systematic study of the *archaeological* facts has apparently not yet been attempted. — (B) The three types listed under this letter are, on the whole, derived from the standing Viṣṇu (human form, 4-armed) and from Viṣṇu-on-Garuḍa. Information on Vaiṣṇavī is easily available, while more specialized literature has to be consulted for the other two goddesses, who belong to the Yakṣī and Mahāvidyā sets of the mediaeval Jaina pantheon (24 Yakṣīs and 16 Mahāvidyās). See U. P. SHAH, JISOA 15. 1947, pp. 132 foll. (5th Mahāvidyā) and JOI 20.3 (March 1971), pp. 280 foll. (1st Yakṣī). (C) Here we consider in the first place the mediaeval temples of the North. Many of them show large numbers of figures on their outer walls and on other surfaces. The iconographic programme of a particular temple often reflects the atmosphere of a particular workshop rather than the spirit of systematic theological efforts — one of the results being the tendency to produce new figures by the variation of the well-known types. The Jaina (!) temple of Pārśvanātha at Khajurāho has several "pseudo-Viṣṇus" differing from proper Viṣṇu images and differing from one another (*Khajurāho* p. 26 etc.)—A temple in Rajasthan had bull-headed Viṣṇu-images (reminiscent of Hayagrīva), very casual in appearance but perhaps of special interest as they show how easily such figures could be produced (*Researcher, Bull. of the Raj. Arch. and Mus.*, 5-6, 1964-65, Pl. 24-25, Kota Dt./Kota Museum). It should perhaps be added that the casual element in Indian iconography generally increases as the size of the figures decreases. The Khajurāho figures just quoted are conspicuous exceptions to this rule, while the Kota figures are small indeed. In *early* art, rare and irregular pieces can be labelled as "unique", but in the later periods some caution is necessary. — (D) The diffusion of the subdued-Nāga motif is demonstrated by graph [8]. The process obviously reflects to some extent mythological traditions not preserved in literature. — The diffusion of the standard attributes (śaṅkha, cakra, gadā, [padma]) is a different matter. It reflects the mythological catholicity of Vaiṣṇavism which operated with the avatāra scheme in literature and with the standard attributes in iconography. The assimilation of the boar (!) motif to the standard type ("innermost circle") is one of the most conspicuous examples. — The Vaikuṇṭha complex (see p. 38 above) has not been included, as its description (combination of various heads etc.) would have oberburdened our scheme.

(E-F) The relations according to "E" and "F" are best described as instances of assimilation ("remoulding", similarity of form without identity of partial motifs). With a few exceptions, transfer is insignificant or absent. The interaction concerns motifs which are sufficiently separated to justify the expression "external". Much material has already been collected by C. Sivaramamurti (*Journal As. Soc. Letters*, 21. 1955, No. 2, pp. 77 foll.). The present survey is restricted to a few paradigmatic cases which are connected with Viṣṇu iconography. — Viṣṇu seated-on-Nāga (compare H. Zimmer, *Art of Indian Asia*, II, Pl. 127: Badami) shows at Aihole the impact of Nāga iconography (op. cit. Pl. 122, compare for the Nāga component L. Frederic, *L'Inde*, 1959, Pl. 187). — In Western Indian art, Kṛṣṇa Kāliyadamana is sometimes modelled up from Viṣṇu-on-Garuḍa. Further Nāga motifs — encircling this group — were added, and eventually a complicated pattern with interlaced Nāga tails developed. See NANAVATI/DHAKY, *Ceilings in the Temples of Gujarat*, 1963, Pl. 12; H. D. SANKALIA, *Archaeology of Gujarat*, 1941, pp. 153-55, Fig. 49; *Mārg* 12.2 (March 1959), p. 67. — Viṣṇu-on-Garuḍa also influenced the following: Balarāma-on-Garuḍa (R. C. AGRAWALA [§ 4], p. 348), Śiva's Rāvaṇānugrahamūrti on the outer walls of the Nāganātha temple at Aundha (*Andhra Pradesh Govt. Arch. Ser.* 15. 1963, Pl. 15a), a Skanda-image near Kathmandu (PRATAPADITYA PAL, ed., *Aspects of Indian Art*, Leiden 1972, Pl. 49a), Śiva-on-Nandi (Djakarta Museum, compare C. SIVARAMAMURTI, op. cit., Pl. 3, Fig. 5).— The Lakṣmī-Nārāyaṇa motif should be connected — always or in a number of cases — with the Śiva-Pārvatī motif (C. SIVARAMAMURTI, op. cit., Fig. 7: Bundelkhand). — Some cases according to "E" and "F" clearly represent isolated developments. A Narasiṃha-image in the South has been influenced by Śiva's Liṅgodbhavamūrti (G. JOUVEAU-DUBREUIL, *Archéologie du Sud de l'Inde*, II, Pl. 26), Śiva's Śarabhamūrti (Airāvateśvara temple, Darasuram) shows the influence of Viṣṇu's Narasiṃhamūrti (C. SIVARAMAMURTI, op. cit. Fig. 25).

Normally, attributes are considered in connection with the god or goddess to whom they belong. It is, however, also necessary to proceed from the attribute to the deity, i.e. to ask where a particular attribute is found. We have selected for this purpose the subdued-Nāga motif ("contribute" according to *Deogarh* § 297):

[8]


subject: subdued-Nāga motif
variable: god etc.
Viṣṇu
Māndhātā
(Buddhist cakravartin)
Kṛṣṇa Kāliya-damana
Varāha
Trivikrama
Narasiṃha
Karivarada
other types
Māndhātā
parallels etc.

References: J. N. BANERJEA, *Development of Hindu Iconography*, 1956, Pl. 23, Fig. 3 (Narasiṃha); ibid. Pl. 23, Fig. 2 ("other types"); observations on Karivarada follow in the next paragraph, and for Māndhātā see § 5.6 below. —— Naturally the inversion (proceeding from the attribute to the gods) is more useful in some cases than in others. But although we try to supply examples which seem to be "interesting" we cannot include observations on the relative usefulness of the different classifications in the present article, which considers the method as such.

The Karivarada myth relates how Viṣṇu came to the rescue of an elephant who was attacked by some aquatic animal ("Karivarada" designates Viṣṇu, while the better known term "Gajendramokṣa" designates the incident). It seems that in the early period the motif occurs four times: Deogarh (Gupta temple), Deogarh (Varāha temple: copy of the Gupta panel), Undavalli cave, Pattadakal (north porch of the Virūpākṣa temple). According to the available literary tradition (mainly Bhāgavatapurāṇa 8, 2) the elephant is caught by a *crocodile*. This is replaced by a Nāga at Deogarh and by a tortoise at Pattadakal (C. SIVARAMAMURTI op. cit. Pl. 19, Fig. 38). The later representations show a crocodile, and information on Undavalli is not available. The Deogarh Nāga in all probability replaces the crocodile of the literary tradition (philologically speaking, the crocodile is the lectio difficilior). As a consequence we have a clear separation of two concepts: substitution (Karivarada) on the one hand, and transfer (Varāha, Trivikrama, Narasiṃha) on the other. More often than not a clear separation is difficult. We mention only the case of wall-figures where different gods share the same attributes and where some "gods" are simply created by the combination of attributes which were in vogue in the locality. Here a purely synchronic approach (statistics) may be preferable to the employment of the terms "transfer" and "substitution" (which are diachronic). — That the substituens (motif substituted for another motif) may be similar to or assimilated to the substitutum (motif which has been replaced) is a different matter. For "similarity" refer to *Deogarh* § 88, for "assimilation" to *Distinction* (Figs. 42-48).

§ 3. CLASSIFICATION IN KṚṢṆA ICONOGRAPHY

The simplest classification is always the safest classification. DIVISIONS showing considerable depth produce more problems than

Divisions with minimal depth (two to three planes), complex features (true divisions) are less precise than features concerning details (pseudo-divisions). More often than not, true divisions are inaccurate because there is no concomitance (see pp. 29-30 above). Below we supply two pairs of pseudo-divisions (a/b and x/y): —

(a)	Kṛṣṇa with two arms	(b)	Kṛṣṇa with more than two arms
(x)	Kṛṣṇa not Viṣṇuized	(y)	Kṛṣṇa Viṣṇuized

It would be tempting to weld the four pseudo-divisions into two true divisions (a-plus-x, b-plus-y). But there is no clear concomitance a/x and b/y. The Viṣṇuization of Kṛṣṇa figures with more than two arms is in most cases not very *pronounced*, while it is not completely *absent* from two-armed figures. The tendency to replace true divisions by pseudo-divisions wherever necessary can be described as splitting. The same term can also be used to describe the dividing of *more complex* true divisions into *less complex* true divisions (e.g. "Varāha" into therio-morphic and therio-anthropomorphic Varāha). However, "splitting" is not just another word for "classification". It always negates a well-established concept or a seemingly plausible hypothesis. For an earlier discussion of the problem refer to *Deogarh* § 313.

Below, a classification of the various Kṛṣṇa-images (up to 900 A.D.) is attempted. As indicated already, true divisions could not be established. The variables refer either to entire panels (1-12) or to the Kṛṣṇa figure as such (13-16).

(1) Concentration of narrative material
  (a) One episode (in a particular architectural context)
  (b) Several episodes
  (c) Entire cycle (childhood to Kaṃsavadha)
(2) Panel-episode relation
  (a) One panel showing one episode
  (b) One panel showing several episodes (pre-Kaṃsavadha only)
(3) Episode-phase relation
  (a) One phase shown
  (b) Several phases shown
(4) Biographical section
  (a) Episodes of the pre-Kaṃsavadha period (including Kaṃsavadha)
  (b) Episodes of the post-Kaṃsavadha period

(5) Variety
  (a) Great variety (Kāliyadamana, Govardhanadhara)
  (b) Little variety (the other episodes)

(6) Frequency
  (a) Frequency high (Kāliyadamana, Govardhanadhara, Dadhimanthana, Keśisūdana)
  (b) Frequency low (the other episodes)

(7) Size
  (a) Instances of portrayal in large size (Kāliyadamana, Govardhanadhara, Keśisūdana)
  (b) Portrayal in small size (all episodes)

(8) Place of the panel(s)
  (a) Vertical series (rare, compare the Mandor stelae)
  (b) Horizontal series
  (c) Isolated panels on door-frames
  (d) Independent panels, main idols

(9) Vivid/stiff [historical factor not considered]
  (a) Vivid
  (b) Stiff

(10) Motifs other than the Kṛṣṇa figure [historical factor not considered]
  (a) Well represented
  (b) Few, inconspicuous

(11) Implication
  (a) Episode from the Kṛṣṇa legend
  (b) Kṛṣṇa "as such" (Veṇugopāla, Kāliyadamana) — not before the mediaeval period

(12) Material
  (a) Stone (most cases)
  (b) Terracotta (some cases)
  (c) Other materials (no instances)

(13) Number of arms
  (a) Two arms
  (b) Four arms
  (c) Six arms (rare, perhaps only the panel shown in Fig. 2)

(14) Hand attributes
  (a) Connected with the episode (mountain, flute)
  (b) Derived from Viṣṇu (śaṅkha, cakra, gadā)

        (i) Complete set
        (ii) Less than three Viṣṇu attributes
    (c) Zero (hands without attributes)
    (d) Lotus (Kāliyadamana, connection with Viṣṇu's lotus not clear)
(15) Hair dress (head dress)
    (a) Kākapakṣas (India), Trikakuda (Cambodia)
    (b) Curls (Cambodia)
    (c) Crown
    (d) Other motifs
(16) Influence of Viṣṇu [variable not uniform]
    (a) No Viṣṇu elements
    (b) Viṣṇu ideogram for Kṛṣṇa (see § 5.1 and Fig. 1)
    (c) Individual Viṣṇu motifs (specific)
    (d) Non-specific Viṣṇu motifs (crown, lotus)
    (e) Kāliyadamana assimilated to Viṣṇu-on-Garuḍa (p. 41 above)

Kṛṣṇa does not appear in "pantheon images", showing different deities side by side. The ten-avatāra motif has either Balarāma *or* "Vāsudeva" (Balarāma's pendant in iconoplastic art, looking like Viṣṇu pure and simple) *or* Veṇugopāla (Variable 11). The ten-avatāra motif does not seem to occur before the mediaeval period. Inscribed Kṛṣṇa-images belonging to the periods before 900 A.D. have not come to light.

§ 4. ACKNOWLEDGEMENTS AND BIBLIOGRAPHY ON KṚṢṆA

The author is under a very heavy obligation to Dr. Nagaraja Rao (Director of Archaeology, Karnatak State) who undertook an arduous trip to Badami and Pattadakal in order to secure photographs required for the preparation of this article. The author would also like to thank Dr. Gritli von Mitterwallner (Munich) who placed the Kṛṣṇa photographs from her collection at his disposal and gave her advice on general problems as well as on points of detail. A few photographs (none of them published here) were supplied by other colleagues.

General surveys of the available Kṛṣṇa panels have been undertaken by H. Goetz, U. P. Shah, and K. S. Desai: H. Goetz, *The Earliest Representations of the Myth Cycle of Kṛṣṇa Govinda* (JOI I, I Sept. 1951, pp. 51-59): U. P. Shah, *Śrīkṛṣṇanī Bāḷalīlā* (*Svādhyāya* 10, 4, August 1973, pp. 483-505); K. S. Desai, *Iconography of Viṣṇu*, New Delhi 1973, pp. 123 foll. — — More specialized are the following enquiries: P. V. van Stein

CALLENFELS. *De Kṛṣṇāyana aan Panataran* (*Tijdschrift voor Indische Taal-, Land- en Volkenkunde*, 64. 1924, pp. 196-206); J. PRZYLUSKI, *Revue des Arts Asiatiques, Annales du Musée Guimet*, 5. 1928, pp. 91-97 [Angkor-Vat]; R. C. AGRAWALA, *Ind. Hist. Quarterly*, 30, 4 (Dec. 1954), pp. 339 foll. [Rajasthan]; KRISHNA DEVA, *Lalit Kalā* 7. 1960, pp. 82 foll. [Khajuraho]; PRATAPADITYA PAL, *Vaiṣṇava Iconology in Nepal*, Calcutta 1970, pp. 87 foll. — — For the literary sources (Mahābhārata and Purāṇas) refer to S. N. TADAPATRIKAR, *The Kṛṣṇa Problem* (*Annals BORI*, 10.3-4, 1930, pp. 269-344) and W. RUBEN, *Krishna* [in German], Istanbul 1944. — — — The publications by this author mentioned on p. 26 above are the following: *The Figures of the Two Lower Reliefs on the Pārśvanātha Temple at Khajurāho*, *Ācārya Vijayavallabhasūri Comm. Vol.*, Bombay 1956, pp. 7-35; *Distinction in Indian Iconography*, *Bull. Deccan Coll. Res. Inst.* 20. 1960, pp. 164-248; *The Jina-Images of Deogarh*, Leiden 1969; *Wiederholung in der indischen Ikonographie* (in German,=Repetition in Indian Iconography), *Indologentagung* 1971, Wiesbaden 1973, pp. 99-125; *Further Observations on the Iconography of Pārśvanātha. Mahavira and His Teachings*, Bombay 1976.

§ 5. DOCUMENTATION (KṚṢṆA)

With the exception of the last section, the following documentation covers selected motifs from the larger field of Kṛṣṇa iconography. Specimens later than ca. 900 A.D. have — as a rule — not been included.

§ 5.1 *Post-Kaṃsavadha Panels*

[Here and in other parts of the Documentation we use the oblique to separate the place of provenance from the collection where the piece is kept. Absence of the oblique indicates that the panel is in situ.] — — — (1) ? / Berlin Museum of Indian Art. H. HÄRTEL (and others), *Katalog* 1971, No. 98. Same episode as No. 4 below. Identification by K.Bruhn. Our Fig. 1. — — — (2) Badami, Cave No. 3. MASI 25, Pl. 23d. Pārijātāpaharaṇa (Harivaṃśapurāṇa II, 68 foll.). Kṛṣṇa is shown three times. — — — (3) Deogarh, Gupta temple. MASI 70. Pl. 19c. Kṛṣṇa and Sudāman (Bhāgavatapurāṇa 10, 80-81). — — — (4) Garhwa/State Museum Lucknow. N. P. JOSHI, *Cat. Brahm. Sculptures Lucknow*, 1972, Figs. 11-12. Fight between Bhīma and Jarāsandha (Sabhāparvan). — — —

(5) Paharpur. MASI 55, Pl. 27c. Mithuna, but also identified as Kṛṣṇa-and-Rādhā, Kṛṣṇa-and-Satyabhāmā. — — —At Deogarh, Kṛṣṇa is shown in human form, while Viṣṇu ideograms (Viṣṇu 4-armed) appear on the panels of Berlin, Badami (left, centre, right), and Garhwa. Kṛṣṇa-Viṣṇu is standing (Deogarh, Garhwa), seated on a simple seat (Berlin, Badami-left), and seated on Garuḍa (Badami-centre, Badami-right).

§ 5.2 *Kṛṣṇa Govardhanadhara Two-Armed* (*one panel—one episode*)

[For the episode refer to Harivaṃśapurāṇa II, 15 foll.] — — — (6) ? / Bharat Kala Bhavan. Fragment. According to K. S. Desai, pp. 128-29 (see § 4) this shows "in all probability" Kṛṣṇa Govardhanadhara. — — — (7) ? / According to K. S. Desai, p. 130 (see § 4), the relevant piece is similar to No. 11 below. — — — (8) Badami, temple on the northern fort. H. Goetz, Fig. 3 (see § 4). — — — (9) Bhenswaha, rock-cut panel. Mentioned: *The Century*, 31-8-1974, p. 12. — — — (10) Deogarh / ? *Indian Archaeology* 1958/59, Pl. 75 D. Unearthed by K. Bruhn. Compare No. 13 below. — — — (11) Jatipara/Indian Museum. ASIAR 1921/22, Pl. 36e. — — — (12) Kanchi, Vaikunthaperumal temple. A. Rea, *Pallava Architecture*, 1909, Pl. 78, Fig. 3 (?) The form-motif (Kṛṣṇa's posture) occurs repeatedly at Kanchi (see A. Rea), but identification is difficult. — — — (13) Kara/Allahabad Museum. Pramod Chandra, *Stone Sculpture in the Allahabad Museum*, 1970, Pl. 63. — — — (14) Karusa, Mahādeva's Cave. Mentioned: J. Burgess. *Cave Temples of India*, 1880, p. 421 . — — — (15) Khotan/Central Asian Collections, Hermitage, Leningrad. JISOA, *New Series* 2. 1967-68, pp. 69-70. — — — (16) Mahabalipuram, Kṛṣṇamaṇḍapa. MASI 33, Pl. 28a. The raised arm is reminiscent of the "royal gesture": J. M. Rosenfield. *The Dynastic Arts of the Kushans*, 1967, pp. 175-76, Fig. 159 (Nagarjunakonda). Also compare C Sivaramamurti, *Amaravati Sculptures*, Madras 1956, Pl. 33, 1b (Amaravati); J. Ph. Vogel, *Indian Serpent Lore*, London 1926, Pl. 7b and pp. 151 foll. (again Amaravati, note the cows and cowherds) — — (17) Mandor/Sardar Museum, Jodhpur. ASIAR 1905/06, pp. 135 foll. — — — (18) Mathura City / Arch. Museum, Mathura. A. K. Coomaraswamy, *Hist. of Indian and Indonesian Art*, photograph in the Kuṣāṇa section. The dating has been corrected by various scholars. — — — (19) Phnom Da/Lyon-Stocklet Coll., Brussels. P. Dupont, *La statuaire pré-angkorienne* (*Artibus Asiae Suppl.* 15), Pl. 5A and 7B. — — — (20) Phnom Da/Musée A.-Sarraut, Phnom Penh. P. Dupont, op. cit. Pl. 8A. — — — (21) Rang

Mahal, near Suratgarh / G.G. J. Museum, Bikaner. ASIAR 1917/18, Pl. 13, 1. — — — (22) Srideb / Bangkok Museum. Mentioned: B. P. GROSLIER, *Hinterindien*, Baden-Baden 1960, p. 73. — — — (23) Undavalli cave. Mentioned: C. SIVARAMAMURTI, *Early Eastern Chalukya Sculpture*, Madras 1957, p. 18, line 1. — — — (24) Varanasi City / Bharat Kala Bhavan. ASIAR 1926/27, Pl. 46 D (condition before partial restoration) — — — (25) Vat Koh / Musée Phnom Penh. P. DUPONT, op. cit. Pl. 1A.

§ 5.3 *Kṛṣṇa Govardhanadhara Two-Armed* (one panel=several episodes)

(26) Badami, Cave No. 2. MASI 25, Pl 12 D (1). — — — (27) Badami, Cave No. 3. MASI 25, Pl. 25 b (1). — — — (28) Badami, northern fort, gateway. ASIAR 1928/29, Pl 8b. — — — (29) Gwalior Fort, Caturbhuja temple. See our Fig. 5. — — — (30) Osian. *Lalit Kalā* 8. 1960, Pl. 4, Fig. 11 (top right). — — — (31) Osian. *Mārg* 12.2 (1959), p. 54, Fig. 3. — — — (32) Osian. R. C. AGRAWALA, p. 347 (see § 4). Reference only. — — — (33) Pattadakal, Kāśīviśveśvara temple. A. M. ANNIGERI, *Guide*, Dharwar 1961, p. 33. Reference only. Photograph by NAGARAJA RAO. — — — (34) Pattadakal, Virūpākṣa temple. H. COUSENS, *Chālukyan Architecture*, Calcutta 1926, Pl. 46. See our Fig. 4. The motif of the raised right hand (compare the "royal gesture" mentioned above in § 5.2) occurs three times. — — — [It should be mentioned here that V. S. Agrawala has listed in his Mathura catalogue no less than eight small-size panels showing Kṛṣṇa Govardhanadhara: *Cat. Brahmanical Images in Mathura Art*, Lucknow 1951, pp. 18-22. — A piece brought to the Patna Museum is mentioned by K. S. DESAI op. cit. on p. 130.]

§ 5.4 *Kṛṣṇa Govardhanadhara Four-Armed and Six-Armed*

(35) Ellora, Cave No. 15 (Daśāvatāra), south-east corner of the hall. See our Fig. 2. This is the only known instance of a six-armed Kṛṣṇa-image of the early period. — — (36) Ellora, Cave No. 16 (Kailāsa). Photograph by G. v. MITTERWALLNER. — — — (37) Paharpur. MASI 55, Pl. 28c. — — — (38) Pattadakal, Mallikārjuna temple, face of a pillar on the southern side of the hall. H. COUSENS, Chālukyan Architecture, Pl. 39 and 48. See our Fig. 3. — — — (39) Pattadakal, Pāpanātha temple. Photograph by NAGARAJA RAO. — — — [A classification of all the early Kṛṣṇa Govardhana panels would hardly produce more than pseudo-divisions. It should, however, be mentioned that the northern artists de-

picted the mountain in a realistic manner, while it was treated cursorily in the South.]

§ 5.5 *Kṛṣṇa Four-Armed and Six-Armed*

Five cases are mentioned in § 5.1 (Kṛṣṇa-and-Arjuna, Pārijātāpaharaṇa) and another five in § 5.4 (Kṛṣṇa Govardhanadhara). To these we have to add one instance of a four-armed Kṛṣṇa Kāliyadamana: (40) Ellora, Cave No. 16 (Kailāsa). GUPTE/MAHAJAN, *Ajanta, Ellora* ... (Bombay 1962), Pl. 92, right. Another panel in the same cave, showing Viṣṇu-on-Garuda, is similar (assimilation etc.). See op. cit. Pl. 97 left and also *our* p. 41.

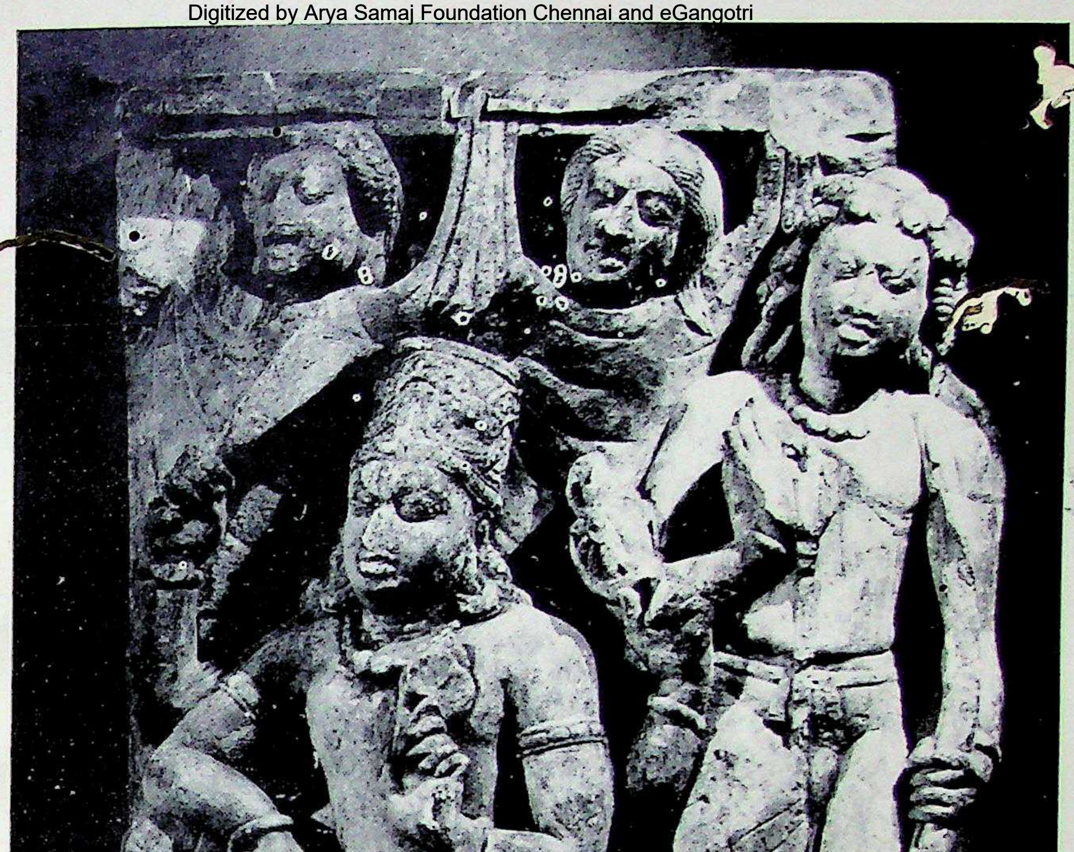
§ 5.6 *Subdued Nāga, Kistna Area (Māndhātā etc.)*

[Supplement to Graph 8.] — — — (41) Amaravati/Madras Government Museum. C. SIVARAMAMURTI, *Amaravati Sculptures* .. (Madras 1956), p. 223 (line 18) and Pl. 33, 1c. — — — (42) Amaravati/Madras Government Museum. C. SIVARAMAMURTI, op. cit. p. 217 (line 4 from bottom) and Pl. 58, 4. — — — (43) Gummudidurru / ? ASIAR 1926/27, Pl. 35b. — — — (44 foll.) The motif was particularly popular at Nagarjunakonda. See MASI No. 71, pp. 32 foll. and Pl. 37 A, 37 B. Also compare MASI No. 54, Pl. 30c and 37a.

§ 6. EXPLANATION OF TERMS

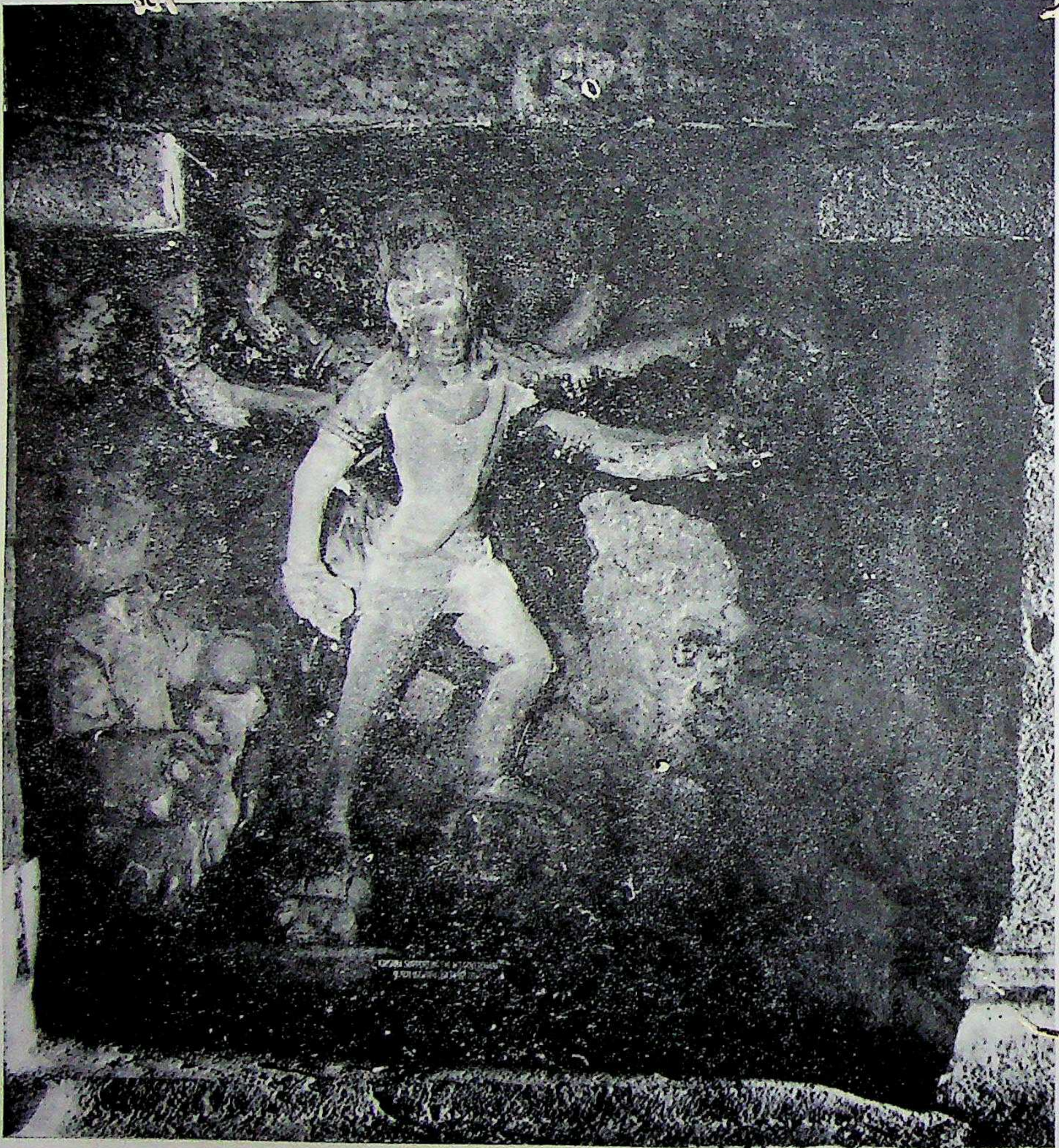
It seems advisable to add a few coordinated remarks for the general reader.

The division of Indian Iconography mostly follows the three great religions, and this distinction is on the whole helpful. Subdivisions are often based on individual gods etc.: Viṣṇu iconography as a part of Vaiṣṇava iconography, Jina iconography as a part of Jaina iconography. — Jaina iconography mainly consists of series: 24 Jinas (p. 34), 24 symbols, 24 attending goddesses, 24 attending gods (p. 34), 16 Mahāvidyās. The Jina motif is very similar to the Buddha motif, but any of the 24 Jinas could become an object of worship and there was considerable emphasis on the series as such. Our term "gods etc." covers gods and goddesses as well as Jinas and Buddhas. — Viṣṇu iconography is normally classified on the basis of the various avatāra lists, more particularly of a list enumerating ten avatāras. As a rule, an avatāra ("incarnation") is clearly separated from the god as such (i.e. Viṣṇu), whereas more neutral terms like "form", "aspect", "mūrti" (employed for all gods, also for Viṣṇu) refer in most cases to motifs which are clearly connected with the basic appearance of the god. The following avatāras have been mentioned in this article: tortoise, fish, boar, man-lion, Karivarada, Kṛṣṇa, Balarāma, Rāma-Dāśarathi. In art, tortoise, fish, and boar may be rendered in animal form (theriomorphic) or in hybrid form (therio-anthropomorphic: human figure with the head of an animal). Viṣṇu originally had three standard attributes (to be more correct: standard hand-attributes), viz. "conch", disk, mace. Later on the lotus was added. The bird Garuḍa is the mount of the god. — Kṛṣṇa is a wanderheld, and his relation to Viṣṇu is not very close. Many episodes from his life have been depicted in early sculptural art, giving sometimes rise to very popular motifs: Kāliyadamana (Kṛṣṇa subduing the Nāga Kāliya), Govardhanadhara (K. lifting up Mt. Govardhana), Keśisūdana (K. slaying the horse-demon Keśi), Venugopāla (K. playing the flute). The first part of Kṛṣṇa's biography ends with the slaying of the king Kamsa, an event which is however hardly shown in art. — Nāga worship was a religion in its own right and produced an intriguing variety of snake motifs. Nāgas or snake demons had one or more hoods (derived from the cobra). They were theriomorphic or therio-anthropomorphic, and there was — as an additional feature — a certain tendency towards concurrent appearance of the animal and the human element. Here we shall merely add that in certain cases a theriomorphic Nāga was represented behind the Buddha, the Jina, or the god Viṣṇu. This Nāga always had several hoods which formed a halo-like element ("hood-circle") behind the head of the Buddha (etc.) appearing in front of him.



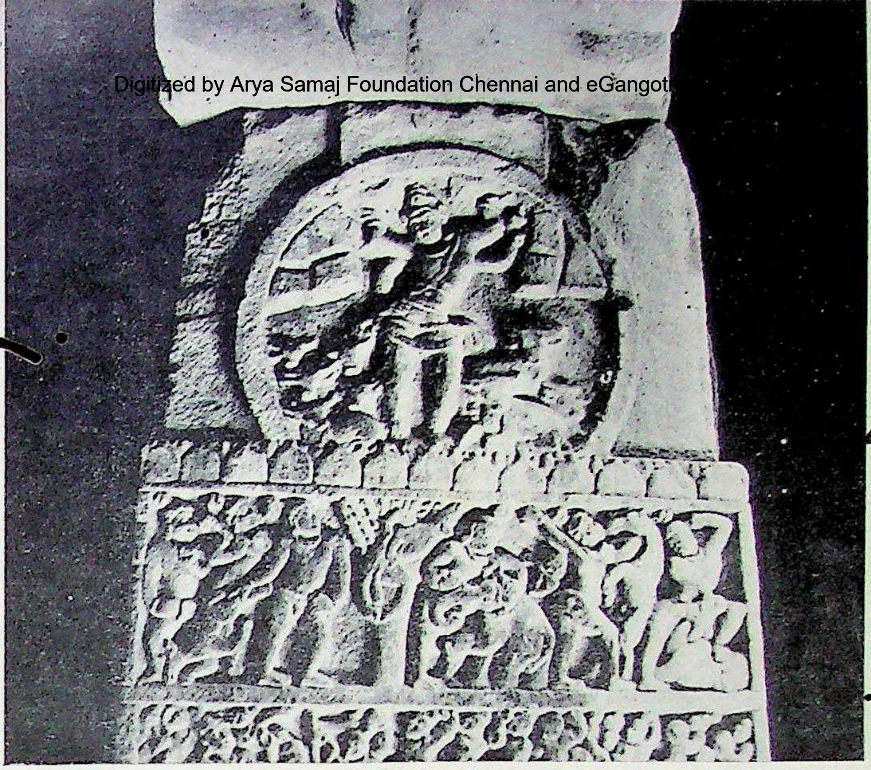
Photograph: Berlin Museum of Indian Art

Fig. 1 : Kṛṣṇa and Arjuna watching the fight between Bhīma and Jarāsandha (Documentation No. 1)



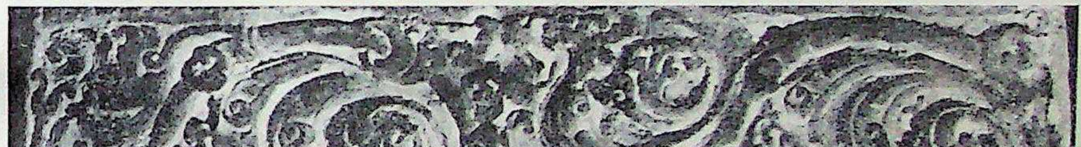
Photograph: G. von Mitterwallner

Fig. 2 : Kṛṣṇa lifting up Mt. Govardhana. Daśāvatāra Cave at Ellora (Documentation No. 35).



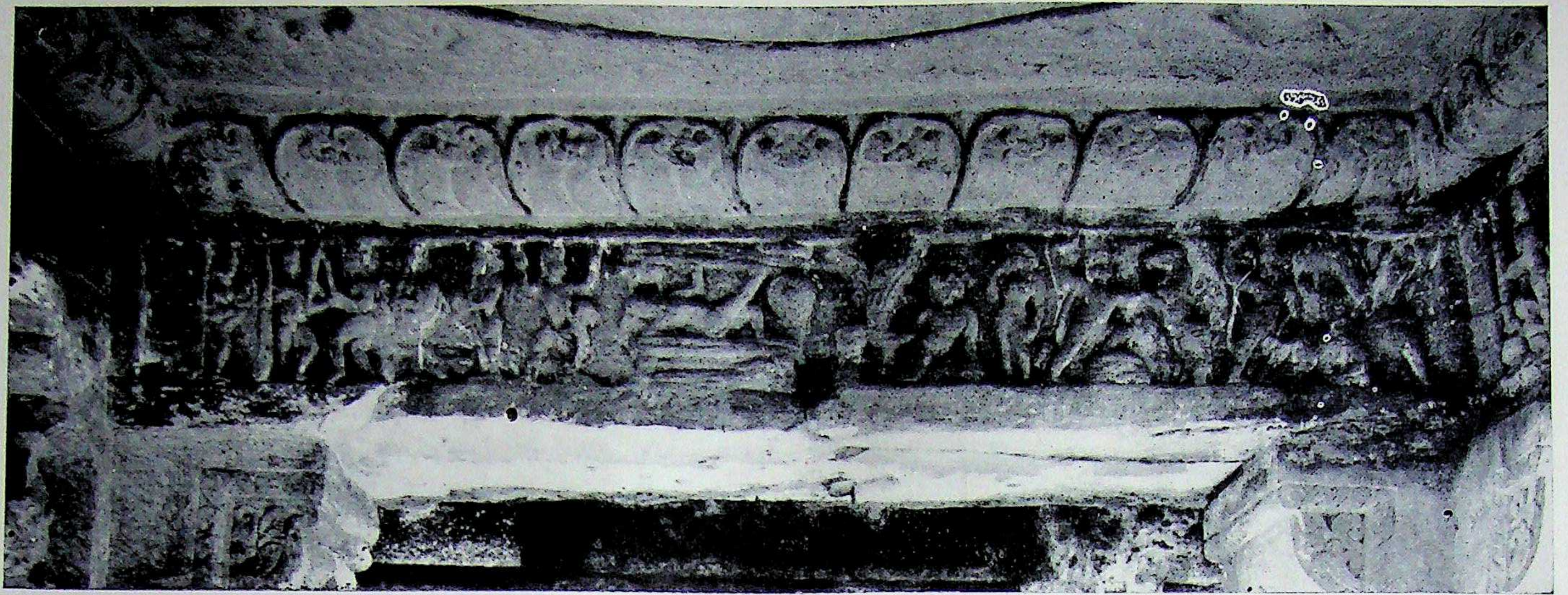
Photograph : M. S. Nagaraja Rao

Fig. 3 : Kṛṣṇa scenes on a pillar in the Mallikārjuna temple at Pattadakal (Documentation No. 38). Medallion: Kṛṣṇa lifting up Mt. Govardhana; oblong panel: Kṛṣṇa (Balarāma) fighting demons.



Photograph : M. S. Nagaraja Rao

Fig. 4 : Kṛṣṇa scenes on a pillar of the Virūpākṣa temple at Pattadakal (Documentation No. 34). Kṛṣṇa Kāliyadamana, Kṛṣṇa Govardhanadhara, Balarāma (or Kṛṣṇa) fighting the demon Pralamba.



Photograph : G. von Mitterwallner

Fig. 5 : Kṛṣṇa Scenes on the inner architrave (northern architrave) of the Caturbhuja temple at Gwalior. — — — *Extreme right*: adjoining panel (eastern architrave), continuation of the frieze (showing inter alia Kṛṣṇa Govardhanadhara) (Documentation No. 29). *Extreme left:* inscription above the doorway to the cella — — — Samvat 932-933.

TREATMENT AGAINST GHOSTS AND SPIRITS

The *bhagtai*-ceremony of the Chodhri tribe in Gujarat

BY

EBERHARD FISCHER (Zurich) and HAKU SHAH (Ahmedabad)

This paper is an addition to a series of manuscripts which is under preparation to document "Art for Tribal Rituals in the Surat District, Gujarat", to be published eventually in India by the Gujarat Vidyapith, Ahmedabad. The fieldwork has been undertaken by the two authors between 1968 and 1971 (for more details see *Fischer-Shah*, 1971). We are most thankful to the following institutions for having enabled or sponsored us to carry out this research: The South Asia Institute, University of Heidelberg, the Tribal Research and Training Institute, Gujarat Vidyapith, Ahmedabad, the Deutsche Forschungsgemeinschaft, Bad Godesberg, and the Indian Council for Social Research, New Delhi.

The following pages and photographs document how some evil spirits are driven out of the body of a patient by a *bhagat*, a tribal priest or shaman. We have recorded such ceremonies several times in the Surat District as performed by various priests of the Chodhri and Gamit communities (see for instance *Fischer-Shah*, 1972). We found these ceremonies to be quite similar to each other and we are giving with this account a rather detailed and perhaps the most significant example of such a *bhagtai*-ceremony. Our paper consists of two parts: a) our own observations of the ceremony itself and b) the information collected from the persons concerned with the ceremony. We abstain from pointing out cross-references or making analytic remarks but give one tentative interpretation only.

(a) Observation

The ceremony, called *bhagtai*, took place in the new part of the village of Golan, near the main road between Buhari and Valod (Surat District, Gujarat), about 4 km away from the latter, during the early morning hours of May 14th, 1970. In a modern, rectangular house with clay plastered bamboo screen walls belonging to a Dubla (Halpathi) woman of the Rathod clan, were present: the former patient, Chhita—a woman of about 45 years of age, looking still slightly unwell, her two sons, some neighbours and the Chodhri *bhagat*, priest, Posla Ditya who had come from the nearby old village of Golan (Valod taluka).

At 7.15 a.m.: The *bhagat* Posla sat on the cowdung-clay plastered floor, near the back-door of the house, through which the morning light flooded in. Small figures of rice flour and water were already made and stood in front of him. He was about to prepare the clay figures. The *bhagat* worked silently, while the patient was sitting on a cot behind him with some neighbours next to her who had come to watch. The young men, sons of the patient, were helping the *bhagat*. One brought the objects needed and prepared the *khichadi*, a rice-pulse mixture, outside the house, while the other carved two crude flat wooden figures with an axe, outside the house as well. Tea was prepared in the kitchen and offered to everyone. About a quarter of the space in the single room of the house was occupied by the *bhagat*.

On his left side there was a rather dry lump of clay which had been mixed with water and thoroughly squeezed. Posla usually dried his hand by rubbing the palm on the floor. He took a small bit of clay from the lump and formed a roll between the palms of both his hands, sticking its ends on the floor to flatten them and then rolling it on the ground. After flattening the ends once more he formed a cylinder. In the upper third of the same he pressed a neck differentiating the head from the body, shaping both now without the addition of new clay. He held the figurine in his right hand and formed it by pressing the clay with the thumb and forefinger of his left hand. Finally, Posla took a small bamboo-chip which he used to make the mouth-slit by pressing the stick in horizontally. He then poked in with the chib two eye-holes, but he never made any marks on the body. He placed the figure on the ground, pressing it on the floor to make it stand properly in a row with the others already made and still to be formed. When the eight figurines and a small horse were completed, Posla *bhagat* prepared eight tiny objects the last of which was made out of flour; this was a small disc-shaped piece, a miniature of a *rotla*, flat bread, which was given to one of the helpers to be baked outside the house. It was brought back after a while and placed on top of the *khichadi*, pulse-rice mixture, which had been carried in—piping hot—a little earlier in a large fragment of an earthen vessel.

Afterwards the *bhagat* washed his hands in a *thali*, dish, and used the same water to sprinkle on some *sindur*, vermilion red powder, which he had taken out of a paper into a cup formed from a fresh leaf of a *khakhra*-plant. With the bamboo-chip, which he had already used for marking the figurines, the *bhagat* applied some liquid *sindur*, vermilion, on top of all the figures and the articles. He then took a small, new, red-baked earthen pot and drew two small line-figures on its shoulder. One of his helpers brought in two flat wooden figures, one with the head marked as a circular plate, the other being just a rectangular piece with round upper edges; both of these roughly axed battens had tapering bases. On both wooden pieces Posla drew a small linear figure with the liquid *sindur*, the same type as already painted on the pot, just adding on top of them a slightly curved line.

While painting, Posla *bhagat* asked for some cotton and some oil—these were the first real words spoken by him since we had arrived. Bhana, one of the sons of the patient, brought these ingredients and made small wicks by rubbing the cotton between the palms of his hands or by rubbing the cotton with his flat hand on the floor. Four wicks were placed into a saucer containing the oil.

When all the preparations were ended, the *bhagat* roled himself a *bidi*, a leaf stuffed with tobacco; he did not smoke it at once, but stuck it between his toes, while he finished with the preparations. He took the oil-soaked wicks and, folding them, placed two on both small flour figurines each of which had a cup-shaped bowl modelled on top of its head for this purpose.

Now the *bhagat* smoked the *bidi*-cigarette for about five minutes. During these preparations, Posla *bhagat* worked indefatigably and consecutively; he barely spoke more than two sentences, asking for the wicks, and giving the miniature *rotla*, flour-cake, to be roasted.

A tiny chicken with its legs tied was dumped near the door.

At 8.15 a.m.: The *bhagat* took some branches from a heap lying behind him to the left, and selected smaller twigs of *nim*-and *umardo*-trees. With them he prepared two bundles which he later joined together.

The woman was asked to come and sit on the floor, facing the figures, with her legs stretched out and her hands on her knees. She looked straight down, concentrating on the proceedings.

Posla *bhagat* started the ceremony with a melodic, rhythmic humming which slowly led to word-chanting. He brushed the woman's head with the branches held in his right hand, subsequently moving them from her forehead over her breasts and limbs, while never touching her. Coming to her feet he lifted the branches high, flicking them as if to shake something off and throwing this on the figurines. This was repeated in rhythm with his chant in which he uttered a series of descriptive metaphors about human relations, seas, river-shores, different gods—mostly Hindu—and about "dirty people" like ghosts and witches. Within these lines of terms, one following the other, the *bhagat* often inserted the sentence: "*Kahe beni, tuhuhu*, tell us o sister, you hu hu", humming the *tuhuhu* melodiously. Another sentence appeared quite often as well: "*Batri mon no bhar lage*, weight feels 32 *mon*, i.e. about 32 times 20 kg", meaning: That weight (which has fallen on the body) is too heavy, it should leave.—This went on for about seven minutes. While the *bhagat* used his right hand for moving the bundle of branches, with his left he sometimes accompanied the strokes rhythmically or he touched either his ear, the white towel tied around his head like a turban, or his hair.

At 8.30 a.m.: Silently, Posla *bhagat* stroked the leaf-bundle on the back of the woman's head, brushing down from her shoulders to the ground behind her back, beating the brush heavily on the floor. Meanwhile a ready-baked, female clay figure and a small, regularly shaped ball were brought and put amongst the (unbaked) clay figures. Both of these had been purchased from the potter Valabh in Valod town and had been kept aside in a bag until then. These new, red figures were slightly larger, and quite different from the others.

Next, Posla offered food to all the figurines and objects, taking first small quantities of *chevada*, *sev* and a piece of *ganthia*—all different types of breakfast-food prepared at tea-stalls in towns. All of these edibles had been kept wrapped in paper on top of the *khichadi* and were now distributed equally on the heads of the figures. Unboiled rice grains were sprinkled over all the figures as well. However, before giving food to the fired clay figure and to the clay ball the *bhagat* applied *sindur*, vermilion, to them.

When the *bhagat* had given food to all the figures, he picked up the two flour figures, on the heads of which he had placed the wicks. Holding them in his hand, he requested somebody to close the front-door to keep out the wind. Then he asked the son of the patient to light the wicks with a match. The *bhagat* took the pot and placed it at the feet of the patient. Posla stood up, and with the lit figures in both his hands he passed them over the woman's front from head to feet several times, the same way he had done with the branches, this time, however, performing the ritual in a standing position. Meanwhile a piece of old white cloth and a string were kept ready,

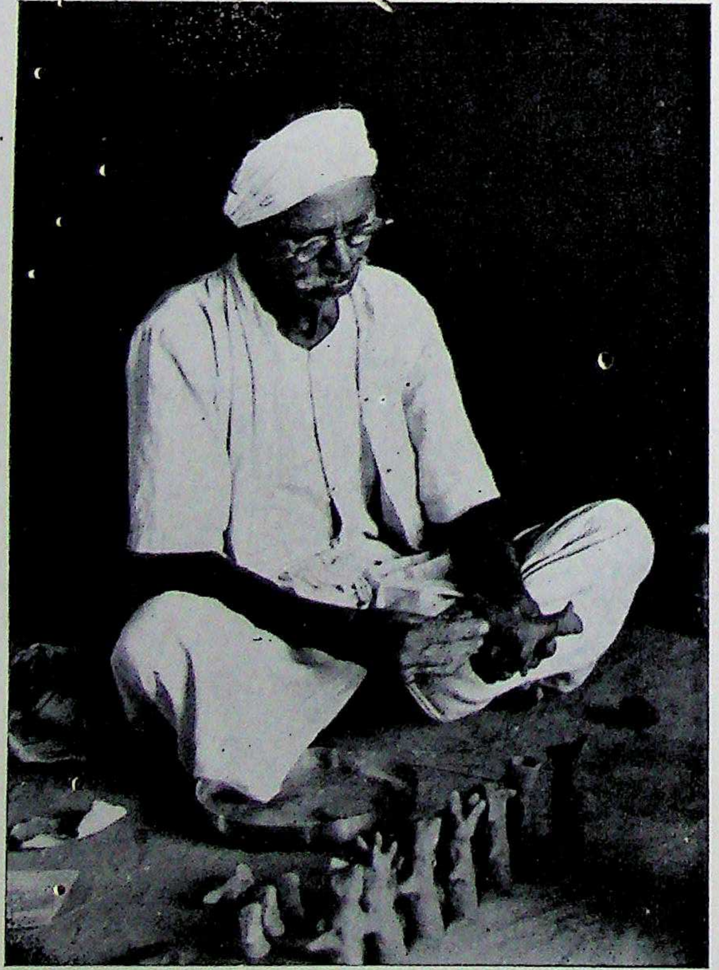


Fig. 1 : A ghost-horse of clay is prepared by the *bhagat*, priest

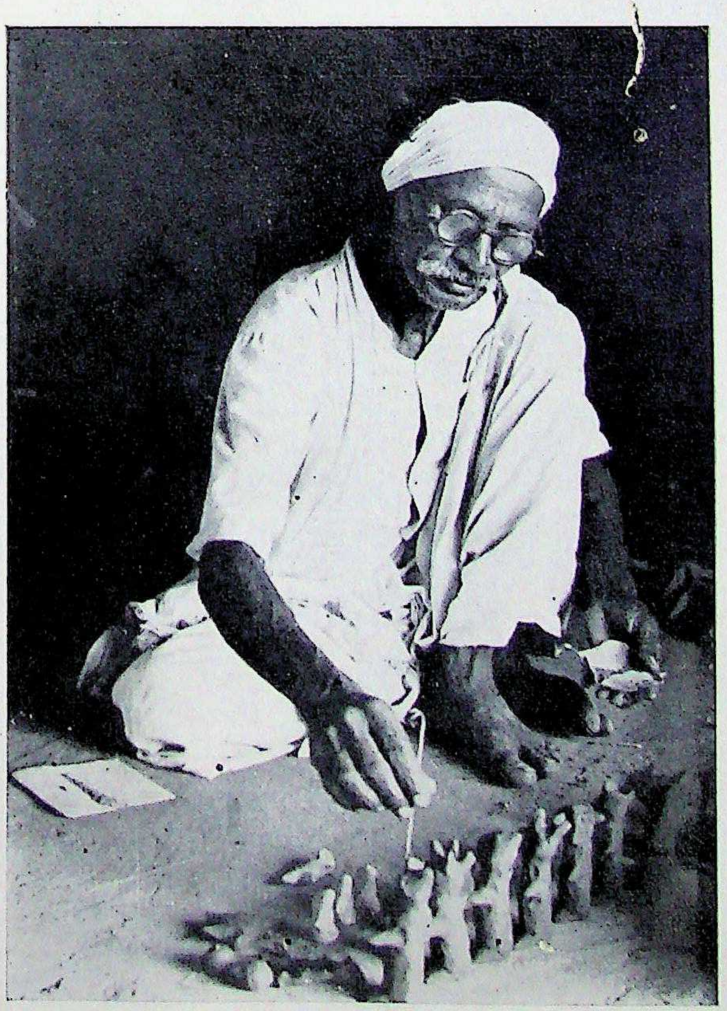


Fig. 2 : Vermilion is given to all the ghost figures

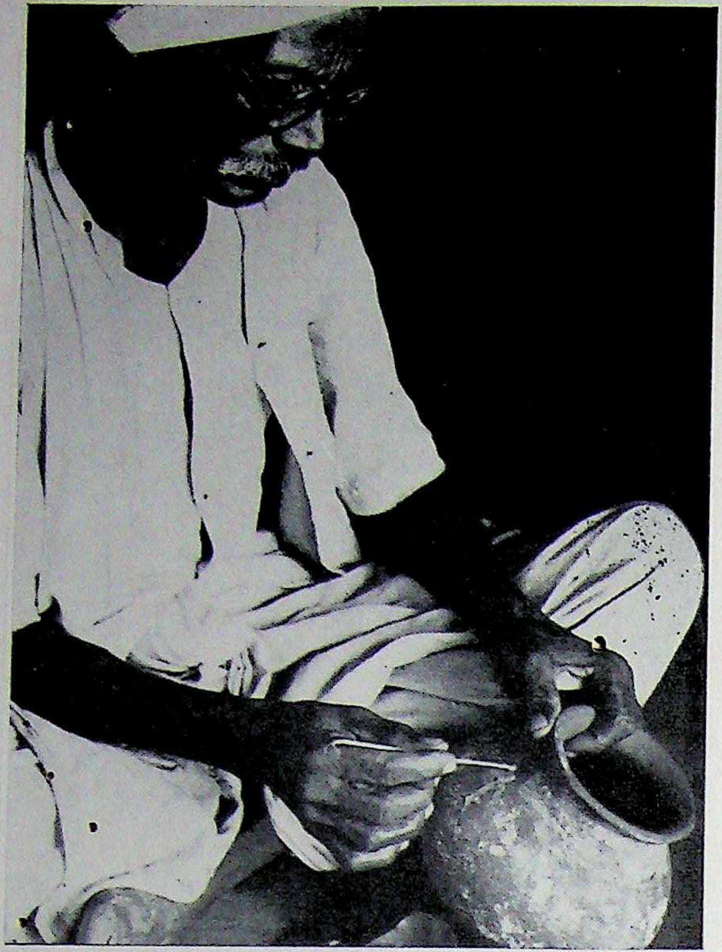


Fig. 3 : A small figure is drawn on the pot

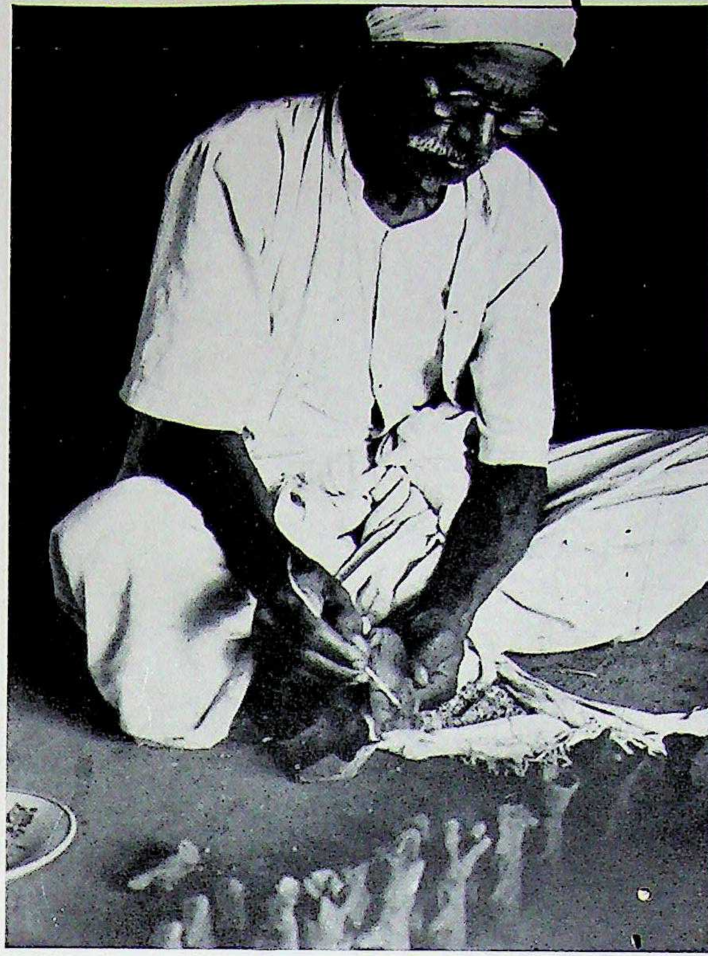


Fig. 4 : A linear figure is drawn on a flat wooden piece

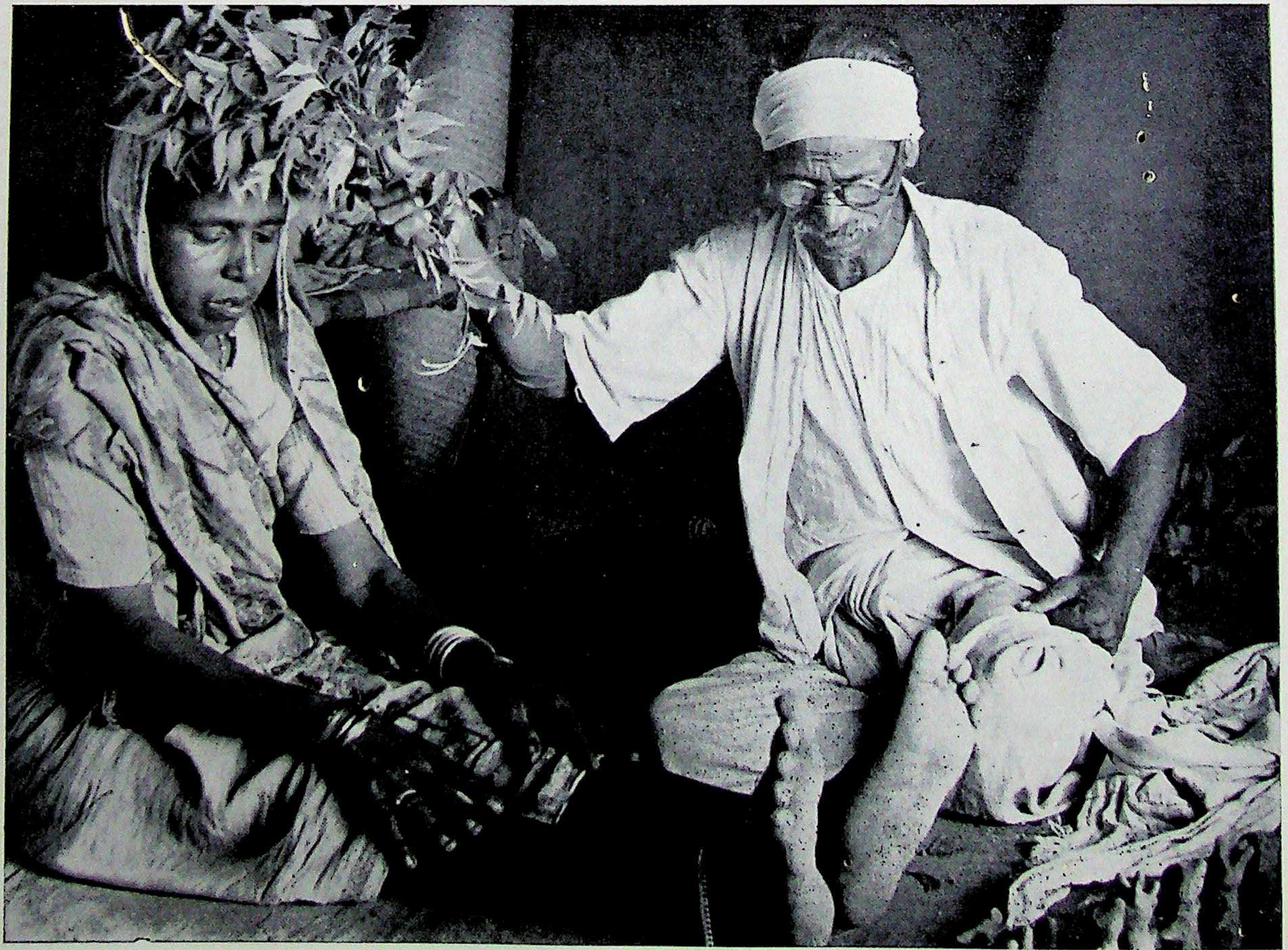


Fig. 5 : The *bhagat*, priest, brushes over the patient with a bundle of green branches

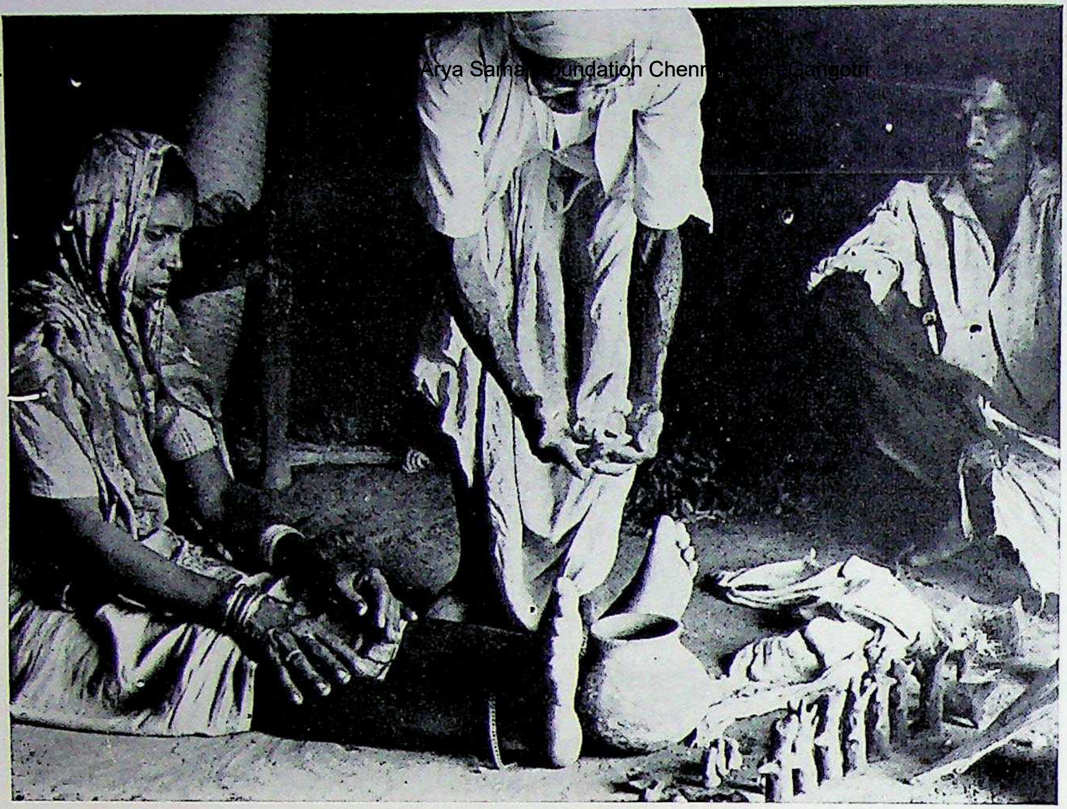


Fig. 6 : An oil-lamp is passed together with a ghost figure over the body of the patient and lowered towards the clay pot

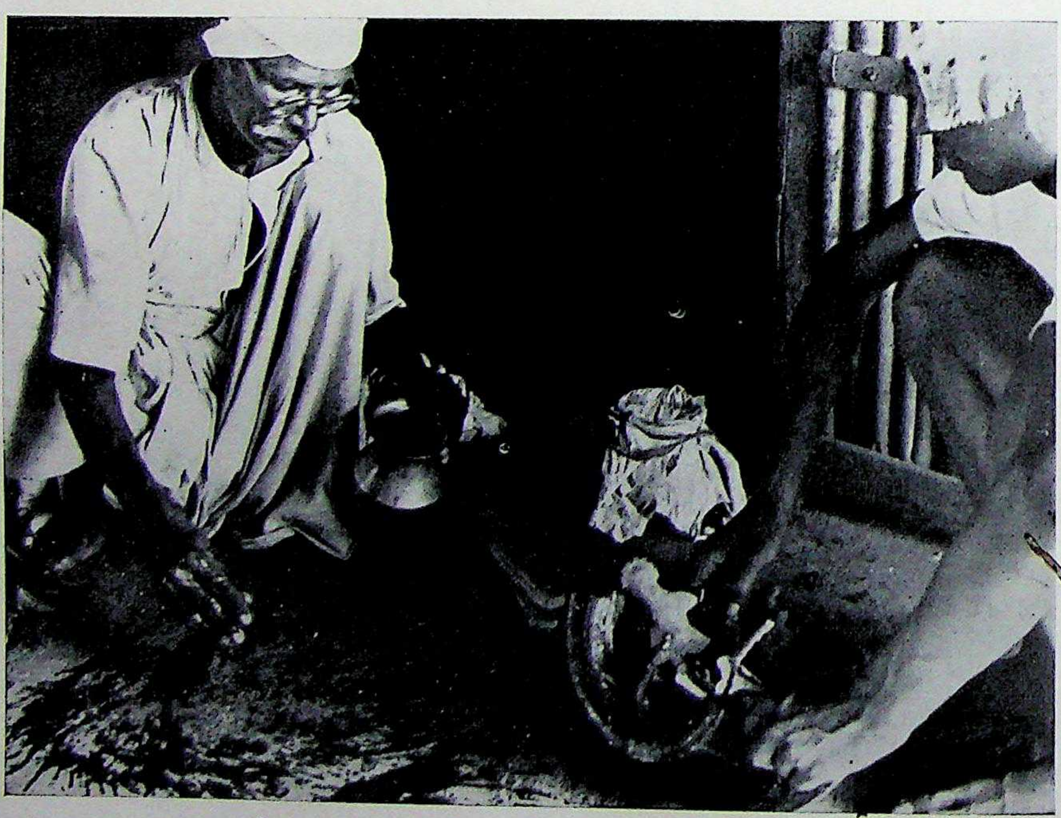


Fig. 7 : All ghost figures and other items are collected in a broken clay vessel and the floor is cleaned with water

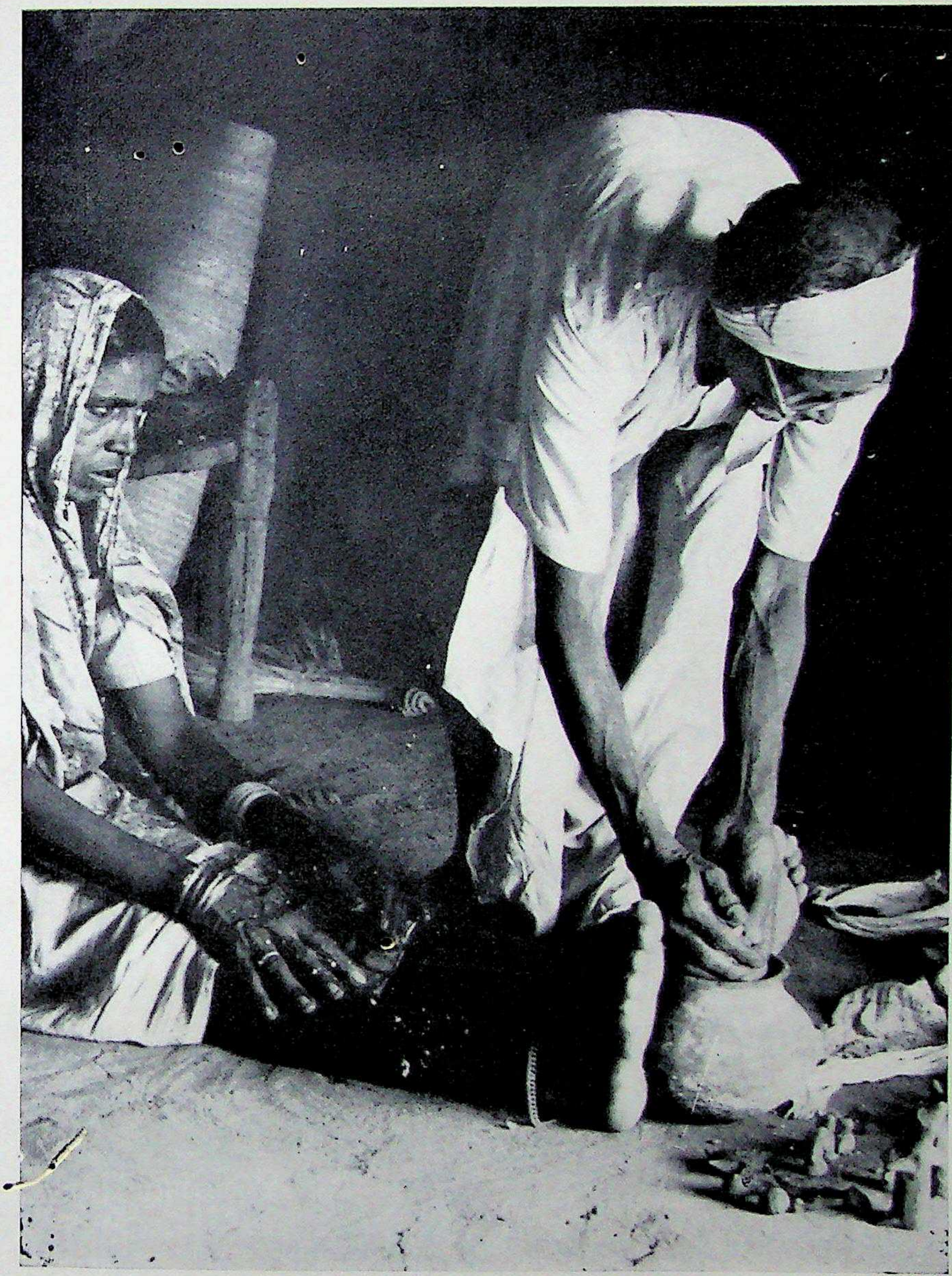


Fig. 8 : The patient watches carefully as ghost figure and oil-lamp are placed in the clay pot

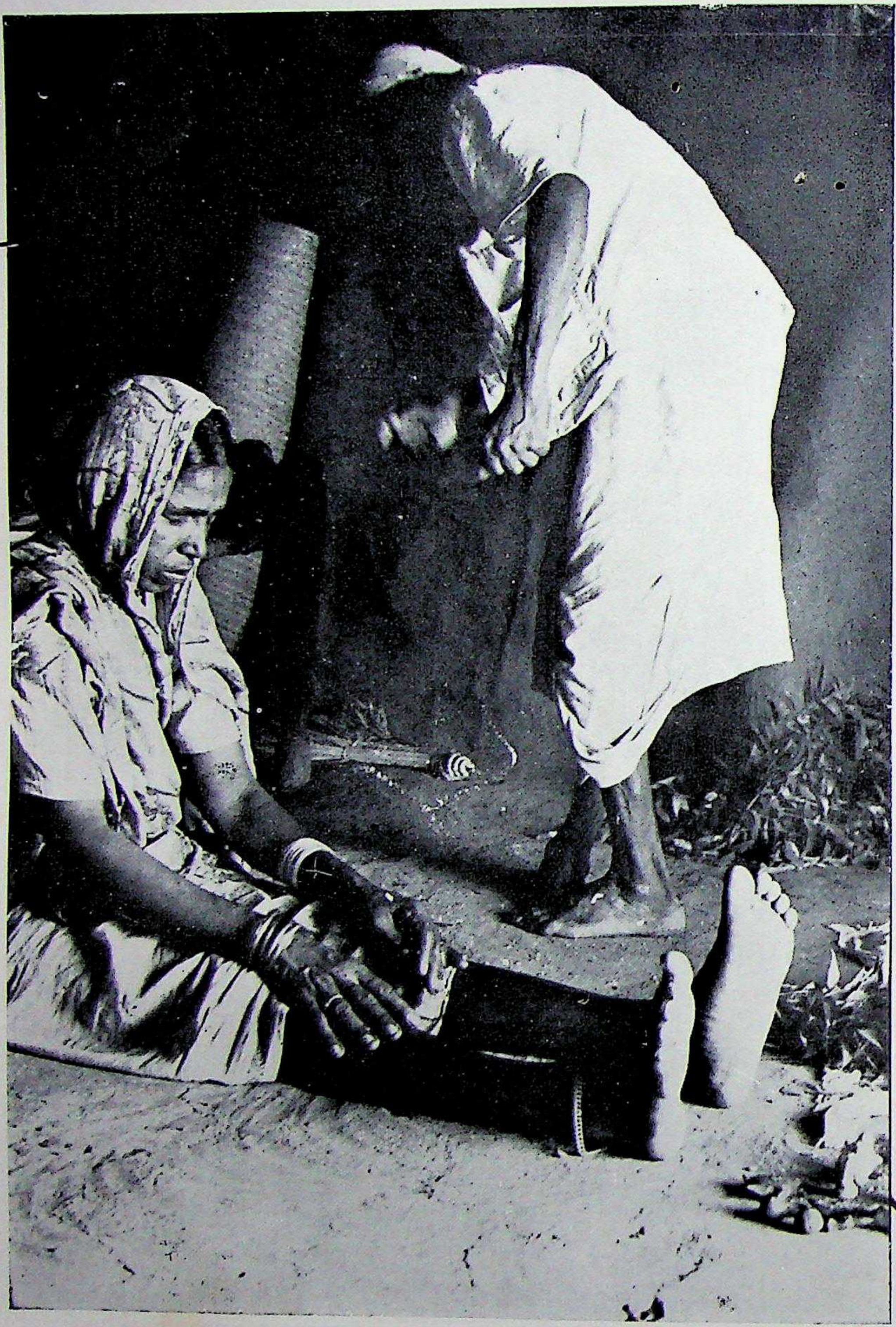


Fig. 9 : The priest throws grains on the patient

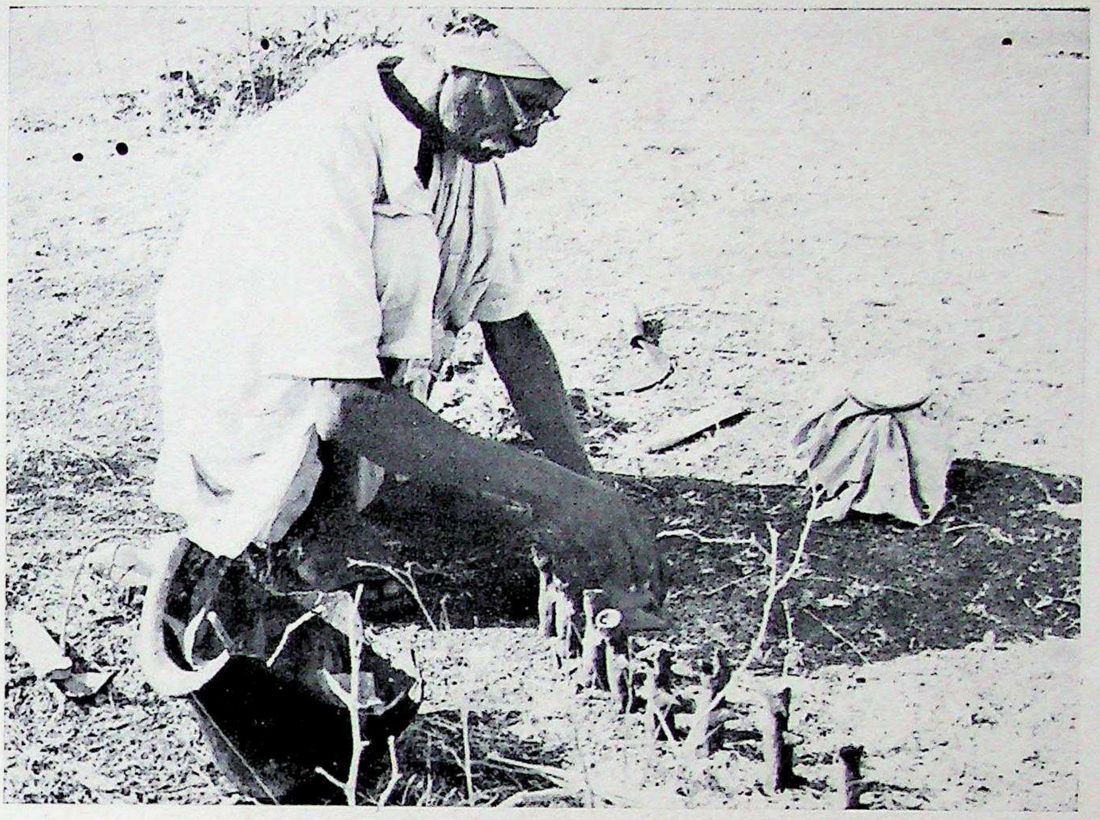


Fig. 10 : All figures and articles are finally installed at the border of the fields

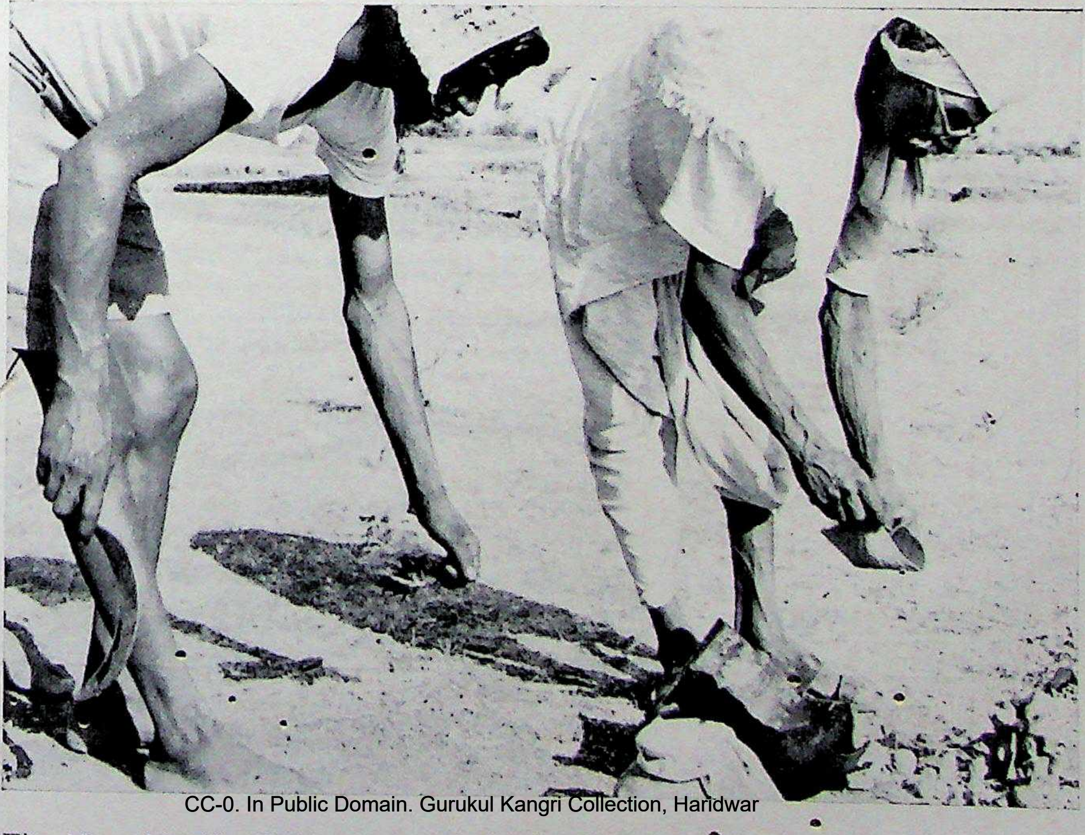


Fig. 11 : Liquid offerings are made to the ghost figures

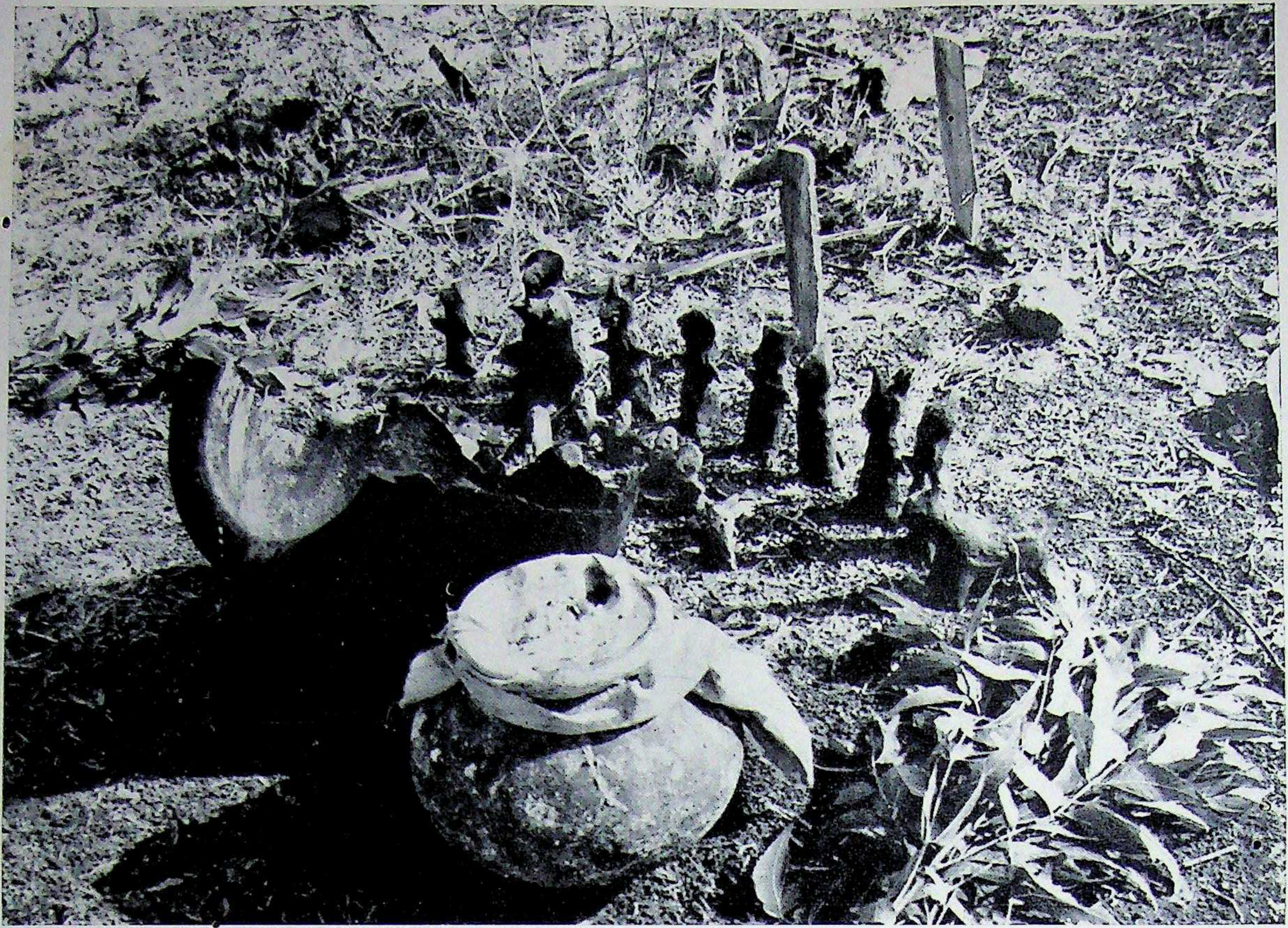


Fig. 12 : The ghost figures and utensils are left in the fields

and when the priest had finished this part of the ritual, the wicks were quickly but carefully lowered with the two figurines into the pot. The pot was immediately closed tight with the cloth and the string. On the stretched out cloth the *bhagat* drew a line-figure with his finger dipped in *sindur*. All this took place in complete silence.

The *bhagat* then took some *adad*—grains mixed with rice—in both his hands and circled the woman, stopping at all four sides. At each side he positioned his left foot perpendicular to the right, pointing outwards. He then bent down and threw some grains between his legs at the patient, throwing them forcefully as if to whip the woman.

Small *nim*-branches were used to cover the *khichadi*, rice-pulse mixture, in the broken clay vessel. All the flour figures as well as those of clay and the other articles were placed on top of the boughs, mostly reclining towards the walls of the pot-fragment. On the very top the baked clay figure from the potter and the ball were placed along with the two wooden batten-figures. All of the objects had been handed over one by one by the *bhagat* and arranged in the pot by Bhana, the son of the patient.

Meanwhile Posla *bhagat* swept the floor with the branches. He collected all food-particles, rice-grains and pulse and sprinkled them into the vessel. On the floor, at the same spot where the figurines had stood, the *bhagat* sprinkled some fresh water and, using the point of a sickle, he drew three horizontal lines parallel to each other and across them three vertical ones. Then he dug out the centre-square of the floor with quick sickle-strokes. All this being done, the *bhagat* rushed out of the house through the back door (in front of which the entire ritual had taken place), accompanied by the woman and her two sons, who carried the two vessels and the chicken. The woman stood still outside the door, and while the *bhagat* stepped aside, one of the sons, Bhana, took the pots in one hand and the branches in the other and suddenly brushed over his mother's arms with the bunch of branches several times. Then the woman went inside the house, while the priest and the two men walked towards the fields, crossing the main road.

At 9.15 a.m.: Near the path, on the border of the field, the fragment of the pot with the figurines was set down and all the figures were taken out and placed on the ground, facing the west, the house of the patient being at their backs. Behind the row of the clay-figures, the wooden figures were hammered into the ground by the stroke of a stone. First the figure with the circular head was installed, followed by the rectangular headed one. The chicken was then brought and Bhana, standing with both his feet on the wings, pinned it to the ground and cut off its head with a sickle. Blood from the head and the body was sprinkled over the figures. The chicken was taken away while the *bhagat* chanted again a sequence of *chhakh*-words.

At a distance of about ten metres a fire was lit and the chicken's body and head were roasted. Dried chilli-powder and oil were mixed with some pieces of the cooked chicken and the brains from the opened head. Most of the food, however, was packed into some leaves to be taken away to the *bhagat's* house and there eaten by his family members. The *bhagat* himself tied it into his towel. Before leaving the place, he offered *chhakh* near the fireplace. In one hand he mashed the *kaleju*, liver, from the hen with his fingers, while he offered tea with milk out of a leaf-bowl from the other hand, all the time uttering *chhakh*-words. The remaining tea, prepared before in the house, was heated up in a brass cup on the open fire and served to Posla *bhagat* before he left for home.

(b) Information

When the *bhagtai*-ceremony was over, we sat together at the Posla *bhagat's* house and discussed the ceremony—how it had been performed and why. The lively explanations given by the son of the patient, Bhana, and by the *bhagat*, Posla Ditya, are quite clear and do not need much further explanation. That is why we have given this information as it was recorded. Only some minor unimportant repetitions have been left out, and the sequence within the interview has been changed to make the contents more lucid.

Bhana: "My mother was suddenly vomiting blood. There had been no signs of illness before. The blood suddenly came out of her stomach. // There was no high temperature and there was no cough or cold. // You know, there was my marriage to be performed. At that time, all this happened. When we prepared (the marriage) it became like this."

Posla: "His mother fell down (i.e. became ill). // At that time, there were four marriages (in this village). I had come to Bhana and performed *pithi*, part of the marriage ceremony; then I went to the other marriage parties. That was all. On the same day, when the *jan*, bridegroom's party, was ready to leave the village, something *lagyu* fell (on her). // All their relatives had come (on that marriage-day). In our communities, every relative receives some cloth at such an occasion."

Bhana: "But (that happens) only if there is *sagavad*, a surplus; otherwise, how can you give? // One (female relative) may not have been given (the gift). If we have no surplus, we just can't give.—We gave cloth worth about 500 Rs. and distributed them to all our relatives. // All, men and women, received their share of cloth at such an occasion."

Posla: "It may have been a *parko sago*, distant relative (who has done evil). Come on them, I don't want her (i.e. Bhana's mother) to see her son's marriage (that person will have said). At last, she (i.e. the witch) did not allow (Bhura's mother) to see the marriage (of her son). *Muth mareli*, the evil fist (i.e. similar to the evil eye), was attached to her."

Question: "Was it a man or a woman?"

Posla: "Woman."

Bhana: "On the 6th, my marriage was to take place. At about 4 o'clock our *jan*, bridegroom's party, was supposed to leave (the house). But the *bhagat* (most probably Posla) had to come (i.e. the evil fist had been thrown, so the bhagat had to perform a ceremony). // The *bhagat* (first) saw *dana*, the grain-oracle, and my mother was cured (i.e. the *bhagat* found the reason for the illness). // Afterwards *vachan bandhi didhu*, the vow was taken, that after a certain period of days a certain *vidhi*, ritual, will be performed (i.e. the *bhagtai*-ceremony)."

Question: "When the *dana*-oracle was seen, did your mother have to sit with the *bhagat*?"

Posla: "Yes, but she was (sitting) in the corner (but answering questions)."

Bhana: "Today we did the *vidhi*, ceremony."

Posla: "Yesterday had passed (i.e. without performing the ceremony, as intended)".

Bhana: "We should have done it yesterday, but the (Posla *bhagat*) went to a wedding, so we performed it today."

Question: "What has to be done now?"

Posla: "Nothing anymore. If there is any *angarog*, bodily disease, then they will have to call a (medical) doctor, too. Our work we do here only. But mostly, this woman cannot be cured without me."

Bhana: "Without him (Posla *bhagat*) it is very difficult (to cure his mother). Many *bhagats* will come; but without him, it can't be done."

Posla: "I have to go to her, believing (her to be) my sister (i.e. do not consider her as a 'woman')."

If we summarize the account given of the woman's illness, we can say that the mother of a bridegroom suddenly fell ill with a bleeding stomach when preparing for the wedding without having the means to give presents to all the relatives. The *bhagat* who was called from the neighbouring village to find out the reason, consulted the oracle and stated that some distant relative, a woman not content with the gift she had received (or had not received at all), had thrown *muth*, the evil fist, on the patient, and that has caused the illness. In order to give immediate relief to the patient the *bhagat* requested her to take a vow to perform the *bhagtai*-ritual after a fixed period of days.—At another instance, the son of the patient said that his mother already felt much better after taking the vow and knowing the reason of the disease.

This story suggests that the patient actually suffered from some kind of stomach-ulcer which burst when the woman was subjugated to a strong nervous stress during the preparation of her son's wedding. The stomach bled and she vomited blood. It should be noted that the reason for the illness was not seen in the disposition of the patient or in the circumstances but was focused on some person found guilty for what happened. — Another, minor fact seems to be noticable: The ceremony by which the patient was finally cured did not take place on the right day, a fact which could have been used as an excuse by the *bhagat* if the patient had not regained her health.

The different causes of diseases, i.e. the different evils, are described by the *bhagat* Posla Ditya. He says:

"(When seeing the *dana*-oracle) we have to find out, which (type of) *muth*, evil fist, it is (i.e. is the cause of some disorder). Is it *adhuri*, half, or *aghari*, hard ? Is it *khila*, nails, or is it *ban*, arrow? If we know this, then we *muth valie*, become prepared for *muth*, the evil fist. If (e.g.) *adhuri muth*, a half fist, did *dakhal thay*, enter (the body of the patient), then our *vidhi*, ceremony, must be a special one. If however *jivti dakhal thay*, (evil) life has entered, another ceremony has to be performed. // This woman's illness was caused by *jivti ne moyli*, *banne* (evil) living and dead, both. // Both of them together are called *meli*, dirty. Without doing the proper ceremony (i.e. *bhagtai*), *manaha padej ney*, the person does not become alright (i.e. cured). — (Another example) if it is *bahar no pavan*, an outside wind (i.e. disease caused by the environment ?), then we have to make *rath gadi*, a chariot for a *rath*-ceremony. Only in doing this, the disease can be *hankavu*, driven (out). — In this case, however, it was *bai no pavan*, wind of a woman (i.e. the evil was sent by a woman). .. (Such evil can be called) *bai nu rahnu*, woman's mischief."

At another instance the *bhagat* said:

"*Muth mareli, kapali thayali*, the evil fist was attached to her, and she was trembling."

Question: "Was there anything else involved?"

Posla: "The other thing was *ghadavi ma utari te*, that, what we have put in the pot. // They were *moyli ne jivti*, dead and living. .. Through *chhahana*, meditation, we have to find out; afterwards we have to perform the correct *kriya*-ceremony."

From this information we learn that different diseases have different reasons, or are the results of different kinds of evil influences. They are found out by the *bhagat* when seeing his oracle and are treated with different kinds of ceremonies. One of these was observed. A general term for such exorcism seems to be *kriya*, while *vidhi* is far more general; it can be used for any ceremony. — It is furthermore noteworthy that the *bhagat* avoids to use a direct language to describe the reason for the illness; he even avoids giving the exact, but still quite general word (*vetri*) for the evil source, but uses the wider expression, *moyeli ne jivti*, dead and living, which in this case meant a *vetri*-ghost.

The ceremony itself is being performed according to a vow which had been taken to cure the disease. It starts with the *bhagat* making several small figurines from clay and from dough. They represent different ghosts or (evil) forces. According to the information given by Posla *bhagat* the different clay figures are called as follows:

"*Amar ghodo*, immortal horse; *tapesar bavo*, meditative monk; *visami bhut*, ghost of rest; *totadiyo bavo*, stammering monk; *jal panihari*, net-water-woman; *melo bhut*, dirty ghost; *melo gidh*, dirty vulture; *melo hirvo*, dirty .. (?); *amarvani*, immortal language (?)."

The figures made of *lot*, flour, are called:

"*Moyli jivti vetri*, living and dead *vetri*-figures (three small figurines); *khapar jogani*, skull (of) *Jogani*-ghost; *jogani bhut*, Jogani ghost."

The different clay articles made by the *bhagat* himself are called:

"*Gola, kacha*, unbaked ball; *muth*, fist; *vir*, ghost (this was trapezoid in shape) *theka*, support (in the form of a star.)"

The figure prepared by the potter and fired in a kiln is called *astri, paki*, baked woman, and the ball *gola paka*, baked ball.

The figures painted on the pot are called *lingu*; one wooden pole is

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goval khunta, pole for a cowherd; the other, however, is *vetri khunti*, *meli*, pole for a *vetri*, a dirty one.

Besides these items, Posla *bhagat* needed for his ceremony the objects which he termed as:

"*Khapri*, a pot; *khichadi*, rice-pulse mixture boiled with water; *kacho hidhu*, unboiled food; *choka*, rice; *khaja*, breakfast-foodstuff; *bhat*, rice grain; *adad*, black pulse; *pinchhi*, branches of *limda* and *umarda*-trees."

About the meaning of the different actions within the ceremony, we could not get any information, except that the throwing of pulse and rice grain in four directions away from the patient is specially called *muth utarvi*, taking out the evil fist, while lighting the oil-wicks on the figures and immersing these in the pot is called *moyli jivti vetri utareli*, taking out living and dead *vetris*.—The use of a baked clay ball has a direct reference to the disease of the patient: the ball represents (even for the potter) the stomach.

We might mention at last, that the terms used for the different aspects of this ritual vary quite a bit from *bhagat* to *bhagat*. But this would have to be the subject of another paper.

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HAEMOGLOBINOPATHIES IN THE POPULATION OF ASSAM

BY

GEBHARD FLATZ (Hannover)*

Haemoglobinopathies are hereditary anomalies of the chemical composition or of the production rate of human haemoglobin. The form of haemoglobin present in the majority of adult humans is considered to be the "normal" haemoglobin and is designated as haemoglobin (Hb) A_1. HbA_2 is a minor haemoglobin component normally comprising 2 - 3% of the total haemoglobin. The functional haemoglobin molecule consists of two pairs of protein chains. These chains, designated by Greek letters, are under independent genetic control. In this report only anomalies of the beta-chain of haemoglobin which is present in Hb A_1 will be considered.

Haemoglobinopathies or haemoglobin diseases may be caused by abnormal haemoglobins. A genetic mutation leads to an alteration in the amino-acid sequence of a haemoglobin chain. As a result functional anomalies (e.g. reduced or increased capacity for carrying oxygen) and a decrease in the rate of production of the affected chain may occur. Haemoglobinopathies may also be caused by a genetically determined underproduction of a haemoglobin chain without an alteration of the chemical composition as in the group of diseases called thalassaemias.

When abnormal haemoglobins are present in the heterozygous state (i.e. one haemoglobin allele normal, the other abnormal) the resulting anomaly is mild and can usually only be detected by special laboratory methods. When two equally abnormal haemoglobin genes are present (homozygous state) a severe anaemia may ensue. This disease results in a decreased genetic fitness, i.e. the reproductive capacity of the affected individual is reduced. Therefore, most abnormal haemoglobin genes are subject to strong natural selection. It is thus not surprising that most of the nearly 200 known abnormal haemoglobins are rare, usually occurring in only one family. There are several notable exceptions. One of these is HbE, a haemoglobin present in millions of people in Southeast Asia

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and also in the northeastern part of India. There is sufficient evidence to assume that the high prevalence of this abnormal haemoglobin is explained by a superior resistance of the heterozygote to tropical malaria, as in the case of HbS (sickle-cell haemoglobin) that is frequent in some parts of India. The selective advantage of the heterozygote over both homozygotes offsets the disadvantage of the homozygotes caused by lower resistance to malaria in subjects with HbA only and by anaemia in HbE gene homozygotes. This state is known as balanced polymorphism.

Malaria is not the only determinant of the distribution of HbE. Beta-thalassaemia, an allelic gene that also influences the production of the haemoglobin beta-chain, has a strong effect on the frequency of HbE. Both genes show a reciprocal distribution, i.e. where HbE is frequent thalassaemia is rare and vice versa. Since both the HbE and the beta-thalassaemia gene show marked differences of frequency in Southeast Asian populations ethnic factors are expected to play a role in determining the distribution.

In 1961, the author of this report received a research grant from the German Research Council (Deutsche Forschungsgemeinschaft) in order to study the distribution of HbE and beta-thalassaemia in Thailand and in neighbouring countries. This work, carried out in 1962 and 1963, resulted in the discovery of the above mentioned reciprocity of the two gene frequencies and of interesting ethnic distribution differentials. The highest prevalence of HbE was found in the population of the Thai-Cambodian border area (ca. 55%). Beta-thalassaemia was virtually absent in this population. On the other hand, many populations in northern Thailand showed an almost complete absence of HbE gene with a high frequency of beta-thalassaemia. The result of this distribution study seemed to confirm an earlier notion by the Canadian researcher *Brumpt* that there is a connection between high frequencies of HbE and affiliation with the Mon-Khmer or Austro-asiatic language group. This hypothesis was supported by a comparison of historic, linguistic and anthropological data on one side, and the distribution of HbE on the other. The group of Austro-asiatic languages comprises *Khmer* (Cambodian) and *Mon* (autochthonous population of Burma and central Thailand) as the denominators and a large number of isolated tribal languages in Cambodia, Vietnam, Laos, Thailand and Burma. The representatives of the Austro-asiatic language group with the greatest distance from the centre of distribution in Southeast Asia are the *Khasi* and related tribal groups in the northeast of India. Austro-asiatic influence is reportedly also present in some of the *Munda* people of southern Bihar.

From 1967 to 1970 the author was again in Thailand as head of the Human Genetic Research Laboratory of the University of Chiang Mai. Extensive field work among the populations of northern Thailand, Laos and Burma confirmed the association of high prevalence of HbE (and correspondingly low prevalence of beta-thalassaemia) in the Austro-asiatic populations, e.g. the *Lawa* of northern Thailand, the *Wa* of Burma and the *Khamed* of Laos. These findings raised the question of the status of the Austro-asiatic groups in India in respect to HbE. HbE has been found in approximately 4% of the Bengali population in extensive surveys conducted by Prof. J. B. Chatterjea and his colleagues. A study by Chaudhuri and coworkers revealed a high prevalence of HbE in the *Toto* tribe of northern Bengal. Sporadic cases of HbE were reported from people of Assam residing outside this state. HbE is also found occasionally in Nepalese and Bhutanese. Earlier reports from Assam dealt with the occurrence of HbS in tea garden workers. This population immigrated recently from Bihar and Orissa. Therefore, sickling of erythrocytes cannot be regarded as a problem of the autochthonous Assamese population.

In 1970, a plan was formulated for a survey of haemoglobin in Assam and in the new neighbouring state of Meghalaya. On account of their ethnic and linguistic background two populations were chosen as survey targets:

1. The *Khasi* in Meghalaya, speakers of an Austro-asiatic language with a strong affinity to the languages of the same group spoken in northern Thailand. The *Khasi* have a matrilineal social structure. Remnants of their cultural influence are found over an area much more extensive than their present habitat in the Khasi Hills of Meghalaya.

2. The *Ahom*, a racially mongoloid group in the plains of Upper Assam. According to historical evidence they migrated from Burma in the 13th century. Their old now defunct language is a Thai language related to Shan. As the *Shan* of Burma, a population with Thai and Austro-asiatic elements, are known to have a relatively high frequency of the HbE gene it was thought that a study of the *Ahom* might be of interest.

3. As a base for comparison a sample of the Assamese caste population in the Gauhati region was to be examined. Racially, this group is predominantly "indid" but it contains an easily discernible mongoloid element.

The examination of these groups was to provide a preliminary information on the ethnic distribution of abnormal haemoglobins and beta-thalassaemia in the population of Assam and the neighbouring states.

For the intended research work the collaboration of Indian scientists was sought. Through Prof. M. R. Chakravartti of Andhra University who participated actively in the preparation and execution of the study, a cooperation was established with Prof. B.M. Das, then Reader in Anthropology at Gauhati University. Prof. Das had done extensive population studies in various ethnic groups in Assam. His experience and his organizational abilities were essential for the success of the project. The German side was represented by the author and Dr. H. Delbrück of the University of Bonn. The research work was financed with a grant from the Volkswagen Foundation (Stiftung Volkswagenwerk), Hannover. The field work in Assam was carried out in April and May 1971. As no suitable laboratory was available locally, the blood samples had to be sent to Germany where they were examined in the author's laboratory at Bonn University. The methods of examination are fully described in the publications cited at the end of this report. The blood samples were collected from volunteers at educational institutions in Gauhati, in the Bhoi division of Meghalaya (Nongpoh area) and in two schools in the Dibrugarh area of Upper Assam. The majority of the blood donors were males, 13 to 25 years old. The results of the haemoglobin examinations are summarized below separately for phenotype frequencies and for gene frequencies of the anomalous alleles at the haemoglobin beta locus:

Group	Number examined	HbA+HbE	HbE only	High HbA_2
Assamese	182	15.9%	2.8%	5.5%
Khasi	140	36.4%	4.3%	2.9%
Ahom	129	46.5%	11.6%	1.6%

The first two groups represent heterozygotes and homozygotes for the HbE gene; "high HbA_2" signifies thalassaemia minor, the heterozygous state of the beta-thalassaemia genes. The gene frequencies are calculated by counting the number of genes in heterozygous and, if present, homozygous carriers and by division through double the number of persons examined:

Group	Frequency of the HbE gene	Frequency of the beta-thalassaemia gene
Assamese	0.107 ± 0.016	0.028 ± 0.009
Khasi	0.225 ± 0.025	0.014 ± 0.007
Ahom	0.349 ± 0.030	0.008 ± 0.006

The figures represent the gene frequencies plus/minus standard deviation. In addition to the groups mentioned in the tables five *Kachari* subjects were examined. All five had HbE either in the heterozygous or homozyous state. The *Kachari* are a mongoloid population settling in different parts of the Assam plains. Besides the *Chutiya* they are thought to be one of the oldest elements in the Assamese population. Their presence probably antedates the migration of indid populations from the west and certainly that of the *Ahom* from the east.

In 1973 the Alexander-von-Humboldt-Foundation of Germany donated equipment for a haemoglobin laboratory in Assam. With the support of the Foundation the author spent several weeks in Upper Assam during the monsoon season of 1974 in order to participate in setting up this laboratory and to help in training laboratory staff and research scholars. In cooperation with Prof. B. M. Das, now head of the Department of Anthropology at Dibrugarh University, 500 samples of the population of Upper Assam with emphasis on the *Ahom* and *Kachari* groups were examined in the newly established laboratory. The data obtained are not fully analyzed at the time of writing this report. It may be said, however, that the results of 1971 were confirmed. The combined prevalence of HbE carriers in the rural *Ahom* and *Kachari* population of Upper Assam reaches values of 65%, with corresponding gene frequencies near 0.5 in some areas. This is by far the highest frequency of any abnormal haemoglobin gene ever found. In the caste population HbE gene frequencies similar to those in the same groups in Lower Assam were observed.

The following conclusions can be drawn from the result of these studies:

1. The population of Assam is characterized by an unexpectedly high prevalence of HbE in all the various subgroups examined. Frequencies of the magnitude observed in the *Ahom* and *Kachari* groups of Upper Assam have until now only been found in the *Khmer* population of the Thai-Cambodian border area.

2. The expectation that populations of the Austro-asiatic language group contain a large proportion of HbE carriers is confirmed. The distribution of HbE is not limited to these groups, nor do they have the highest frequency of the HbE gene. It is clear, however, that the mongoloid groups of the Assam plains, be they "autochthonous" as the *Kachari*, or migrants as the *Ahom*, show maximal gene frequencies of the HbE gene in rural areas. As homozygosity for the HbE gene causes a disadvantage (anaemia, proneness to abortion in females) it is not to be expected that frequencies much over 0.5 can be maintained.

3. The populations with a high prevalence of HbE seem to be in Hardy-Weinberg equilibrium, i.e. the observed numbers of the three genotypes AA, AE and EE do not differ significantly from the distribution expected according to the binomial expansion of the observed frequencies of the HbA and HbE genes. This would indicate that in the examined age group (adolescents and young adults) the survival value of the HbE homozygote is not decreased. This is in contrast to the HbS (sickle-cell) polymorphism where very few homozygotes are found in the population beyond puberty. The understanding of the HbE polymorphism in the Assam population will be facilitated by fertility and age stratification studies.

4. In all examined populations, a three allele system at the haemoglobin beta locus involving the HbE and beta-thalassaemia genes besides normal allele is present. As in Southeast Asia, there is a reciprocal relation between the frequencies of the two anomalous alleles. This indicates that the system is unstable and that one of the anomalous alleles is being replaced by the other. As the fitness of the HbE homozygotes is much higher than that of the beta-thalassaemia homozygotes (phenotype: Cooley's anaemia, thalassaemia major) it is likely that the HbE gene is replacing the beta-thalassaemia gene in a process drawn out over many generations. In the *Ahom* and *Kachari* population of Upper Assam this elimination process has progressed to near-completeness, so that a two-allele-system (HbA and HbE genes) has virtually been established. It is at present not possible to assess the relative importance of the selective pressures, the frequency of thalassaemia in the original population and the time elapsed since the emergence of the HbE gene in this elimination process.

5. The presence of this polymorphism in the population of Assam supports the assumption that there is a selective advantage of the heterozygotes possessing one HbA gene. The double heterozygotes for the HbE

and the beta-thalassaemia gene are at a severe disadvantage; the corresponding phenotype (thalassaemia-HbE-disease) is almost as severe a disease as thalassaemia major. Nothing certain is known of the factors conveying the presumed heterozygote advantage. In Thailand, it has been shown by *Kruatrachue* that the HbE gene affords protection against tropical malaria similar to the protection exerted by HbS. In Assam falciparum malaria was highly prevalent before control programmes were started. Therefore, the high frequencies of the anomalous alleles at the haemoglobin beta locus may reflect the selective pressure exerted by malaria in past generations.

6. A relatively high frequency of the HbS gene has been found in the tea garden workers of Assam. This is consistent with the distribution of abnormal haemoglobins in the areas of origin in Orissa and southern Bihar. There is no evidence that the HbS gene has been introduced into the general Assamese population or some of the examined ethnic groups. This confirms the observation that there is at present practically no intermarriage between the tea garden workers and other populations in Assam. In the absence of malaria the anomalous genes are expected to disappear slowly from the population. Under continuing malaria pressure a competition between the HbE and the HbS gene may arise.

7. The frequency of the HbE gene in the Assamese caste population is considerably lower than in the mongoloid groups. Racially the caste population is predominantly indid but the mongoloid admixture seems stronger than in the population of northern India. It is, therefore, probable that the HbE gene was introduced into the general Assamese population by intermarriage in former generations (intermarriage is infrequent now). The fact that the HbE gene did not reach higher frequencies in the general population may be due to the prevalence of beta-thalassaemia and to its relatively recent introduction in this population. The predominantly urban habitat of this group may also play a role.

8. The high frequency of the HbE gene in the mongoloid groups of Assam and the neighbouring states makes it likely that this gene may have spread to other mongoloid groups in northeast India. Sporadic occurrence of HbE in Bhutan, Sikkim, northern Bengal and Nepal may reflect a wedge-like extension of the area of distribution of HbE along the southern slopes of the Himalayas. This pattern of distribution, viewed along with historical and cultural evidence, seems to permit the hypothesis that the

entire area of northeastern India including Assam with the neighbouring states and territories and parts of West Bengal and Nepal was inhabited in prehistoric times by a population of Austro-asiatic tribes among which HbE spread after its introduction from Southeast Asia. The populations that subsequently migrated to this area (Indids, Tibeto-Burmans) acquired HbE by mixing with the original inhabitants. This resulted in a dilution (by the numbers of individuals not carrying HbE) and a depression (by beta-thalassaemia frequent in the migrant groups) of the HbE gene frequencies. In the case of more recent migrants, time was not sufficient for the establishment of equilibrium, i.e. the elimination of the beta-thalassaemia gene in favour of the HbE gene.

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SOME RESULTS OF THE EXCAVATIONS AT SONKH

A Preliminary Report

BY

HERBERT HÄRTEL (Berlin)

For eight years in succession, from 1966 to 1974, the mound of Sonkh near Mathurā has been the site of an increasingly interesting excavation in every winter and spring. Assisted by 150-180 skilful Indian workers a team of German archaeologists, under the leadership of the author, exposed level upon level of archaeologically significant habitations. The work started under an agreement with the Government of India and was sponsored by two German foundations, viz. the German Research Society (Deutsche Forschungsgemeinschaft) and the Prussian Cultural Trust (Stiftung Preussischer Kulturbesitz). The team consisted of the excavation leader, two architects and one ceramic designer, photographer and excavation technician each. With the help of scholarships made available by the German Academic Exchange Service, the experts were joined every winter by one or two German students of Indian art and archaeology.

In India the undertaking had received support from many sides.The assistance rendered by official bodies — especially the curator and staff of the Mathurā Museum and the Director General of the Archaeological Survey of India — was greatly appreciated by the excavators. In a most selfless way, the members of the Cultural Department of the Embassy of the Federal Republic of Germany in New Delhi made the excavation a part of their own work.

The preliminary report is divided into two parts. Firstly, it gives information about the diggings at the main mound of Sonkh and secondly, it deals with the results of the excavation work on an additional site, a "mud island" situated in the fields outside the proper area of the mound. As the material obtained from the excavation is not yet completely interpreted, the conclusions drawn may not be taken as final in all cases.

I

THE EXCAVATION AT THE MAIN MOUND OF SONKH

1. The Site

As one of the most important cultural centres of ancient India Mathurā had indeed earned the attention of the archaeologists since a long time. The only question for us was which of those numerous sites should be selected for our purpose. Since our main interest was aimed at finding architectural structures and other remains belonging to the earliest history of Mathurā — when it was looked upon as *sarveṣām daivatīrthāṇām māthuram paranam mahat* — it seemed advisable to look for some more undisturbed mounds than those in the city itself. And among all the possible places, the vast artificial plateau within the fields of Sonkh, some eight miles south of the holy Govardhan, attracted our attention most (fig. 1). In his "Mathura: A District Memoir" (3rd Ed. 1883, vol. II, p. 383), F.S. Growse remarks: "This (Sonkh) lies immediately under the Khera or site of the old fort, of which some crumbling walls and bastions still remain. It was built by a Jāt named Hati Singh, of the time of Suraj Mall of Bharatpur, or Jawahir Singh; but the Khera itself must be many hundreds of years older." Growse's opinion was corroborated by surface finds of Śuṅga and Kuṣāṇa terracotta pieces, fragments of Kuṣāṇa sculptures and older potsherds. Thus, it was of high interest to verify the archaeological importance of the Sonkh mound and to obtain details about its historical sequences.

The mound mentioned by Growse consists of a plateau which originally was of the size of at least 200,000 sqm, but is now diminished to a large extent. However, about 75,000 sqm of the old mound still exist surrounded by fields; the town of Sonkh itself is partly built on the extensions of the mound. On this plane rises an elevation measuring 100 x 90 m, which was built over in younger times with fortifications and corner towers and has the appearance of a citadel.

A most extensive survey of this area was undertaken in order to facilitate systematic digging operations. The site (fig. 2) was divided into 100 m and 20 m squares.

2. The Digging Procedure

In the winter of 1966/67, we laid a trench of 36 x 5 m in the northern slope of the elevation and, in a small sectional area, reached the natural soil at a depth of 17,20 m. It was thereby established that, but for few interruptions, the mound of Sonkh had been colonized continuously for over 2,700 years. Its latest constructions belong to the 19th century. The oldest level showed large masses of Painted Grey Ware, mingled with Black and Red ceramics. Specially conspicuous was a metre-high succession of different brickworks located at the foot of the citadel elevation which, judging from the relevant finds, must have belonged to the Kuṣāṇa and pre-Kuṣāṇa periods.

The result of the first campaign instigated us to carry out, during the following winter season, horizontal diggings in the north-east part of the citadel in an area of altogether 4,000 sqm. In the beginning, it was a rather troublesome task because the successive levels of structures in the heart of the mound were mostly destroyed. It was only at Level 16, counting from above, that the area was filled with the remains of walls which yielded at last the complete outline of a section of a town. Through the exposure of the building levels step by step, and with the help of the findings gathered from two additional trial trenches laid in the west and south slope of the citadel elevation, we were able to determine the complete sequence of the colonizations, namely, the mound of Sonkh contains, from the highest to the deepest, the following 40 levels:

1—5 Jāt, 6—7 Islamic, 8—11 Late to Early Mediaeval, 12—13 Post-Gupta, 14—15 Gupta, 16—22 Kuṣāṇa, 23—26 Pre-Kuṣāṇa to Post-Śuṅga, 27—28 Late Śuṅga, 29—30 Middle Śuṅga, 31—32 Early Śuṅga, 33—34 Maurya, 35—36 Pre- and Early Maurya, 37—40 Painted Grey and Black and Red Ware Periods.

Each one of the levels has its more or less special features which are reflected, above all, in the building-structures and in the objects found. But simultaneously, the conceptual interrelation of certain groups of levels became apparent which, in most cases, turned out to belong to a ruling dynasty. In the following an attempt will be made to describe some of the site's historical phases.

3. Brief Account of Structural Remains

Early mud and mud-brick phases

The early phases of settlements within the mound of Sonkh, Levels 40 to 37, belong to the Painted Grey Ware Period. Within the area under excavation no remains of mud or mud-brick walls were noted. The only remains of brick-like pieces of mud seem to belong to fire-places in the outskirts of P[redacted]-G[redacted] Sonkh. But it is uncertain if the absence of wall remains is due to the limited area or to the predominance of other building techniques at such an early stage. Several post-holes and reed-impressions in mud-pieces suggest a kind of houses constructed in more perishable materials. An interesting feature within Level 40 is a system of two parallel running ditches of different width and depth with a small rampart in between. Judged by the situation of the finds they are part of the northern enclosure of the habitated area at the starting point of civilisation at Sonkh.

Beginning with the early Maurya time (Levels 36 to 35) mud became the prevailing material for the construction of houses. Up to Level 30, to be dated into the middle of the Śuṅga time, houses had a similar appearance. They were built of thick mud-walls, sometimes a bit sloping on the outside. The inner walls, as could be noted in some cases, were covered with mud-plaster mixed with chaff. In spite of the uniform material a large variety of groundplans was detected within the different cross-sections. The most remarkable one was found in Level 35. Its groundplan is circular with an outer diameter of about 3,75 m (fig. 3). A thick layer of ashes within the walls and the burnt mud-plaster on the inner sides allow the conclusion that the roof consisting of a wooden construction covered with reed was destroyed by fire. Another type, 4,50 m wide and, as far as it could be excavated, at least 5 m long, shows an unusually large size for a single room.

The houses of Levels 29 and 28, built for the first time in mud-bricks, follow a pattern which forms with some modifications the base for the layout of Level 27, the mud-bricks measuring 42 x 28 cm. Burnt bricks of the same size come into existence in Level 28, specially for the construction of drains and wells.

House-building in constructional units

An important change in the building practice was effected in Level 27 in so far as, for the first time, houses were chiefly built of baked bricks (fig. 4). The excavated structural remains of this level give testimony of an imaginative method of construction changing in the lay-out of the groundplan from unit to unit. The building principle is clear: at first separate houses of two or three rooms were erected and adjusted to each other according to the space required. Such houses were connected by plain walls so that a sort of enclosed plot of land came into existence which cannot as yet be called a farmstead in the later sense of the term. The plots follow one another in a row and are enclosed on two sides by streets. A section of Level 27 may illustrate (fig. 5) how the groundplans were laid out.

The street running from the north-west to the south-east is bounded on its north-side by Plots A and B. The excavated structures form a compact block which is separated in the north by a long wall running from west to east. The most remarkable part of Plot A is a hall opening towards the south and measuring 2,70 x 6,50 m. It is furnished with a carefully laid baked brick flooring. On the right and left of a brick pillar there is an opening each 1,90 m wide leading towards a large court, the old pavement of which is still preserved in parts. The extensive paved area of the court, measuring 10 m in the north-south and about 5 m in the east-west direction, necessitated the laying out of a drainage channel. Most probably the channel was open in the courtyard; in the hall itself, however, which it crossed slightly diagonically, it was ingeniously embedded in the baked brick pavement and covered by bricks. It drained towards the north through a breach in the northern wall of the hall. In the west of the court area is a group of three rooms nearly equal in size. They are separated from the southern chambers by a thoroughfare, paved and appr. 0,90 m wide, which leads to the court from the west. The first room has its approach from the inner court, the second and the third rooms are to be entered from the western side. In addition to its approximately 1,10 m wide door-opening in the west, the third room has still another access from the south which is 0,70 m wide. A fire-place built of baked bricks standing upright with a clay lining was found here. The south-door connects this chamber directly across a passage with the middle one of the three store-rooms forming the southern front. The court is bounded in the east through a long closed wall without any door-opening. Behind the same there extends another residential unit (B) connected to Plot A by a path, 0,90 m wide, which runs along the northern terminating wall of the whole complex of buildings. While the access to Unit A leads through a narrow lane, Unit B is entered through a room (2,40 x 4,40 m) which also serves as a passage. The width of the entrance from the street is only 0,65 m, whereas the passage towards the inner courtyard is 1,60 m wide. The next house, also situated parallel to the street and having a passage to another open yard, can be reached over this longish inner court which is enclosed on all four sides. Such a structural design well facilitates a gradual transition from a public to a private area, and it also allows the division of a building complex into different parts.

The other building complexes in Level 27 are arranged in a similar way as the plots described above. Some of the houses show a kind of special comfort. They have a water room with a deep well made of terracotta rings. It is remarkable that this well is always placed in the south-west room of the house, showing thereby a conformity with later constructions, in which water jars were found placed in the south-west chamber.

The house-building in constructional units must have been determined by the roof structures available which necessitated the narrow intermediate spaces between the units as is recognisable in the sketch. The houses were furnished with gable-roofs and covered with roof-tiles. Judging from the opening of the ridge-tile the inclination was about 30 degrees. As shown in fig. 6 along with the types of roof-tiles used[1] about two or three pinnacles were attached to the ridge.

As the roofing of houses joining each other in a right angle was apparently difficult to cope with, rectangular groups of rooms were built and attention was given to adequate spacing so as to allow sufficient projection for the slanting roof. This method was followed also in Levels 26 and 25 so that the Level group 27 to 25 should be considered as a unit on grounds of building technique. The dating of these levels into the first three quarters of the first century B.C. will be proved in Chapter 4.

Farmsteads of the Pre-Kuṣāṇa and Kuṣāṇa Period

If Levels 27 to 25 were connected together rather closely, this can similarly be claimed for Levels 24 and 23. In comparison to the older groundplans, the houses now appear to be irregularly placed, at least the streets and lanes are more crooked and the houses are arranged around open grounds (fig. 7). Real farmsteads emerge through the grouping of the rooms around an inner courtyard. The outer walls run generally parallel and the farmsteads are separated from one another by open areas and narrow gaps. This technique of construction begins in the older Level 24 which, by the dense interlocking and the re-use of its walls, is closely connected with Level 23. Several houses belonging to the oldest phase of habitation in that level show two peculiarities of construction and lay-out which we come across only here: they are built in sections and protected at the street-corners with large stones against damages by vehicles (bullock-carts). Vertical joints, 2 cm wide, prove that single rows of rooms were joined together. The position of the corner-stones discloses the direction of the street, and the houses are as stable as the older ones. The sizes of the bricks measure between 40 x 25 x 5 cm and 42 x 26 x 6 cm. The most complete house (A) contains in its south-west corner a combined bathroom and toilet, i.e. a luxury unknown in the later constructions. The bath-room, carefully paved with baked bricks, can be reached only from the court-yard through the toilet. The water drained to the street while the excrements of the toilet remained in a pit. Two bricks in the form of a trapeze mark the squatting place. On the floor of the toilet room stood two water-jars — one for cold and one for hot water (mica vessel with burnt bottom). The roofs had probably been covered with some other material as not even a single roof-tile was found in this level. The space between the inner rows of rooms in House A of Level 23 gives rise to the conjecture that these houses where also equipped with gable-roofs for which, however, there is no evidence.

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[1] The normal tiles are generally 33 X 22 cm in size.

The Level-group 24 to 23 belongs still to the Pre-Kuṣāṇa time whereas Levels 22 to 16 are to be placed collectively into the Kuṣāṇa Period. While Level 22 takes over in a transition stage the size of bricks from the preceding Level 23, the houses of Level 21 to 16 are made of bricks having the size of 37 x 23 x 5 cm. The seven levels belonging to the Kuṣāṇa time show a more or less densely built up area of houses. Occasionally, there is a working area without building or an open space joined by several streets and lanes.

Not all of the Kuṣāṇa levels are equally well preserved. Layers of ashes and other residues indicate that the one or other structure was destroyed by force. Quite often, the older building materials were re-used for a new settlement. The classification of the individual levels is facilitated by the circumstance that each of them was rebuilt according to a fixed plan after the older area was filled up and levelled. Every now and again the rows of walls in the new structures coincided with those of the preceding ones, since the approximately north-western direction of buildings was adhered to throughout the Kuṣāṇa settlement in Sonkh; the old walls could, therefore, be re-used as foundations. Where the building-plan differed, new foundations were laid without any consideration to the older constructions, quite often piercing through the old brickwork.

When one compares the different successive groundplans of the structures in the exposed area, the similarities of conception in the lay-outs become clear. They consist in the structure system of the farmsteads and their grouping around open places and lanes. The essential constituents of the closed and walled-in farmsteads are the courtyard and the southern row of rooms; in larger houses an additional residential wing appears on the western and often a separate domestic wing on the eastern side of the court. Generally, the entrances are approached from the lane or from the open place; the shops are also situated along the street. The function of the individual rooms is not fixed — only the south-west chamber of all the houses seems to have served as the room for water or as a bathroom as well. The comfort and the stability were greater in the older buildings than in those of Levels 21 to 16, which give an appearance of uniformity by the use of bricks of equal size and a ground-plan hardly ever changed. All the same, differences can be found here too. When comparing the construction of Level 21 with that of the younger Level 16, the more spacious and freer arrangement of structures within the same area becomes conspicuous in the older habitation (fig. 8). The ground-plan of Level 16 shows the most developed and also the most systematic lay-out. What is remarkable here is that the single houses come to be built more closely together leaving a narrow gap of about 30 cm from one house-wall to the other.

Apsidal Temple No. 1 *in the habitation area of ancient Sonkh*

The groundplans show the alterations in the structures of the seven Kuṣāṇa levels. Not a single house has been preserved throughout all these levels. Only one particular building remained in one and the same place: the structure marked as temple on the open place partly surrounded by houses. It is a building of worship, rebuilt, extended and overbuilt, and with the remains of an apsidal wall which opens towards the east (fig. 9). The sides of the apse were destroyed in the 18th century by deepening a ditch. In the course of digging, three parallel boundary walls of the apse, placed side by side, and at least four super-structures on these walls were exposed. Finally the preserved parts of the inner apsidal wall appeared 3,20 m high also showing several constructional changes. This building is situated, in all probability, in the centre of the successive settlements of the city and was dedicated to a Hinduistic cult. A stone relief of a sitting Mātrikā, 19 cm high, with two adorants on each side was found on the floor belonging to Phase 4, just in front of a platform constructed as a sort of altar in the curve of the apse. It was probably re-installed from building stage to building stage. To our knowledge, this structure, at the time of discovery, was the first Hinduistic Kuṣāṇa brick temple in the Mathurā district. Its dimensions of 8,85 x 9,85 m proved to be rather small. Most certainly, the temple in its oldest shape existed already in the early Kuṣāṇa period. At that time, measuring only 7,20 x 6 m, the temple was even substantially smaller. To avoid demolishing the walls and other structures resting upon and interlocked in one another, the team could not lay open the deepest foundations. It would have, in fact, meant the pulling-down of nearly all later parts of the masonry. For the time being, the different constructional stages can be ascribed to the following individual levels: Phase 1 = Level 21; super-structures to Phase 1 = Level 20 to 19; Phase 2 = Level 18; Phases 3 and 4 = Level 17; Phases 5 and 6 = Level 16; Phase 7 = Level = 15. At least two building phases may still be lying underground; this is indicated by a few temporarily exposed wall-remains running radially towards the apse and possibly leading to a shrine of rectangular shape. One is, therefore, tempted to conclude that this temple perhaps contained a rectangular altar-niche. However, the rotunda of the apse, built upon this niche, has such short side-walls that one could rather call it a shrine with a round altar-niche.

Buildings and fortifications of later periods

In contrast to the periods dealt with so far, the buildings of Levels 15 to 1 are preserved in more or less scanty wall-remains which in a few cases only allow the sketching of a groundplan. At the present stage of analysis of sketches and levelling, only so much can be said that the excavated area consisted of residential premises of large dimensions in medieval and late medieval times.

The central elevation of the mound was built over with a fortress of the 18th century. It is this Old Fort which was erected by a Jāt named Hati Singh at the time of Suraj Mall of Bharatpur, or Jawahir Singh as mentioned by F. S. Growse. Eight iron cannon balls with a diameter measuring 16 cm were found lying in the fort or stuck in the outside walls. They appear to have been witnesses of the destruction of the fort by the Marathas in 1770.

4. Some Historical Problems in the Light of the Sonkh Excavations

The earliest levels

In the chapter on the digging procedure we have dealt briefly with the sequence of levels in the mound of Sonkh. It is, however, necessary to discuss their inner relations in detail because the continuous succession of levels has led to some significant historical knowledge. A tabular synopsis (fig. 10) reflecting the sequence will illustrate the observations.

The natural soil had been reached in Sonkh in four cuttings lying far apart from each other. At all these spots the earliest levels of settlements were marked through more or less numerous fragments of Painted Grey and Black and Red Ware. In the largest cutting, i.e. in square 3 I — 3 II/Ca, four successive Painted Grey Levels were ascertained (40-37) in a deposit of yellow sand having an average height of 1,20 m. The Painted Grey Ware in all the four levels appears to be mixed with Black and Red Ware. Two charcoal samples found at different places in Levels 39 or 38 yielded radiocarbon dates of 620 and 575 B.C. As no charcoal was found in the deeper and higher Painted Grey Levels, i.e. in 40 and 37, we must consider these dates as indicating the middle of the period in question. Even at a generously hypothetical assumption of 200 years towards each side of the middle date,we do not come to any time older than 800 B.C. for the beginning of the Painted Grey settlement at the old Sonkh. Still more interesting appears the question how long the Painted Grey and Black and Red Ware Period continued. Corresponding to the hypothetical assumption we would have to arrive at a dating of about 400 B.C. Unfortunately, it cannot be said with certainty whether Level 36 followed directly on the uppermost Painted Grey Level 37, or whether an interruption of the settlement took place. It is a fact that the yellow Painted Grey sand is replaced by grey natural soil. That speaks somewhat against a direct transition of these levels. In favour of it, however, would speak the continuous appearance of a potter's mark or symbol stamping in the form of Nandipada, not only in the Painted Grey Level but also in the level lying above it. In any case, the presence of Painted Grey and Black and Red Ware fragments ceases suddenly in Level 36. A new culture announces itself in a differently shaped common pottery and in finds like the grey terracotta head (fig. 22) or the bronze triśūla (fig. 23) described in the next chapter. Indeed, there is no definite way of dating, but the finds, specially the form of ceramics and the appearance of Northern Black Polish sherds, indicate the coming of the Maurya Period. We definitely find ourselves in the pre-Maurya and early Maurya time of the 4th century B.C., for in the following Level 34 we do not only come across the same pottery sherds again (fig. 11), but meet the developed cultural objects of the Maurya time, as they are also known from other excavations, especially the famous Mātrikā terracottas with their slender faces (fig. 13). In the Maurya Levels 34 and 33 we also discovered the first coins, namely, silver punch-marked coins and uninscribed cast coins with the crescent-on-hill motif on the obverse and the tree-in-railing motif on the reverse. There are no inscribed coins in these levels.

The next significant change in the objects found appears in Level 32. Some shapes of pottery continue but the common pottery is now characterised by long-necked types (fig. 12). Particularly conspicuous is the change in the style of the terracotta heads. As human figures the Mātrikā heads of the grey sort are prevailing almost exclusively. However, rather clear differences in fabrication and style are to be noted. For instance, only the faces of the Maurya figures were moulded, the ornamental bands were applied separately. The Śuṅga faces, however, including the hair decorations were pressed as a whole from the mould. The forms of style also changed: the Maurya faces are long, their eyes outlined as a simple ellipse, the mouth is thin and has no vertical risible folds on its corners, the hair is parted in the middle and a pearl-chain lies broadly over the forehead. A Śuṅga face (fig. 14) is much more round with broad cheeks, its eyes marked by a brow-line in addition to the simple ellipse. Near the mouth there is a clear vertical risible fold on either side, the hair is not parted in the middle but has, in most cases, a rectangular cut, the pearl-chain does not lie broadly over the forehead but falls down in a slope along the moulded decoration. The terracotta types of Level 32 and 31 stand clearly at the beginning of the Śuṅga terracotta development and are, therefore, to be classified as Early Śuṅga. Moulded plaques appear seldom at this time. There is not much change in the style of coins, for the punch-marked coins are still the most circulated currency. Crescent-on-hill types were no more found in these levels, but besides the silver punch-marked variety plenty of copper punch-marked coins were discovered now. The most significant coin-find was a small bowl with 42 such copper specimen. No inscribed coins were found as yet.

The excavation of Levels 30 and 29 was marked by the complete absence of single figures of Mātrikās found in previous layers. The field of domestic art is now characterised by moulded terracotta plaques. Again, Mātrikā subjects are presented on them quite often, but the scenes have become more lively; secondary figures appear in increasing number. The style is clearly derived from the early Śuṅga types, but the form of the plaques requires new artistic solutions for the depiction of physical extremeties and clothing. The ceramics have hardly changed in design nor have coins, as the silver and copper punch-marked specimen are still in circulation. It was only in the upper region of Level 29 that a single unusual die-struck copper coin with the Ujjain-symbols on the reverse and a standing human-figure-before-bull on the obverse (see Chapter 5, fig. 26) was found. Again there are no traces of inscribed coins. In spite of different alterations in the cultural objects, the dependence on the preceding period becomes clear. Levels 30 and 29 can, therefore, be dated as Middle-Śuṅga, i.e. in the second half of the 2nd century B.C.

At first sight, Level 28 appeared to offer little changes because the ceramics were almost the same and no alterations were actually to be registered in the building methods as revealed by the few remains of houses. Only the terracottas showed signs of an emancipation as if they wanted to establish an off-from-the-Śuṅga movement (cp. fig. 15). The beginning of a new era, however, became evident only after two special coins were found. These are the first inscribed coins from Sonkh. Their reading runs: *gomitasa.* The coins thus proved to be struck by King Gomitra, the ruler of Mathurā. These two specimen were discovered at completely different spots wide apart from each other, but on the same level. The clear succession of coins in the subsequent levels proved that the Gomitra coins are rightly ascribed to Level 28. According to the finds of Sonkh, Gomitra seems to have ruled for a very short time only; already in Level 27 Sūryamitra follows as the next of the Mitra kings. This Level 27 is the one with the first group of buildings mentioned in Chapter 3 as having been built of baked bricks. Not less than ten well legible Sūryamitra coins were found in the streets and houses of this most extensively excavated level and also in the lower phase of Level 26. The solidity and comfort of structures as well as the abundance of finds create the impression of a great prosperity; it seems that Sūryamitra had not only been the most lasting but also the most important of the Mitra kings. The succession of coins continues above the Sūryamitra region; four coins of Brahmamitra and one of Viṣṇumitra follow in the upper phase of Level 26 and in Level 25. Nowhere from Level 28 to 25 do coins occur in a medley. The conclusion

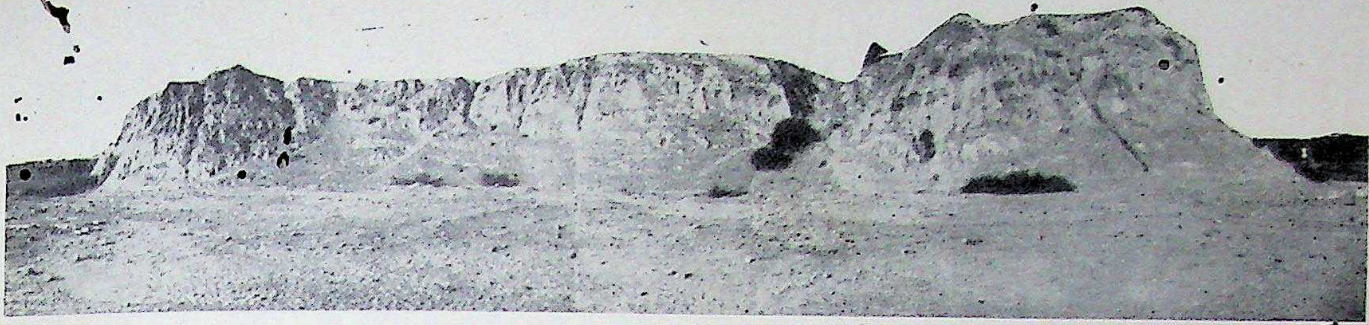

Fig. 1 : Southern slope of the Mound of Sonkh

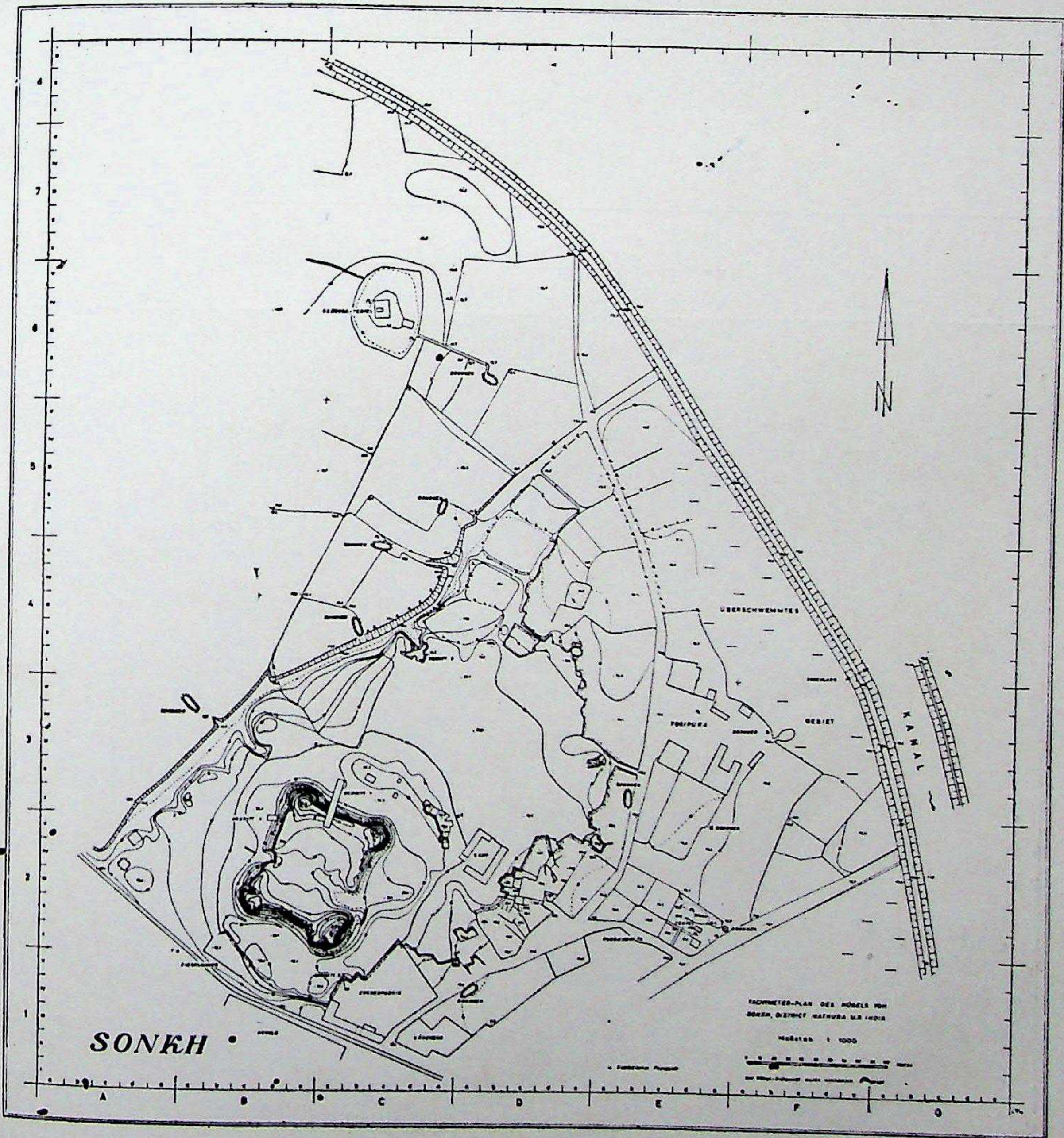
SONKH
ÜBERSCHWEMMTES
GEBIET
KANAL
N
TACHYMETER-PLAN DES HÜGELS VON
SONKH, DISTRICT MATHURA U.P. INDIA
MAßSTAB 1 : 1000
A
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Fig. 2 : Tachymeter-Map of Sonkh Mound

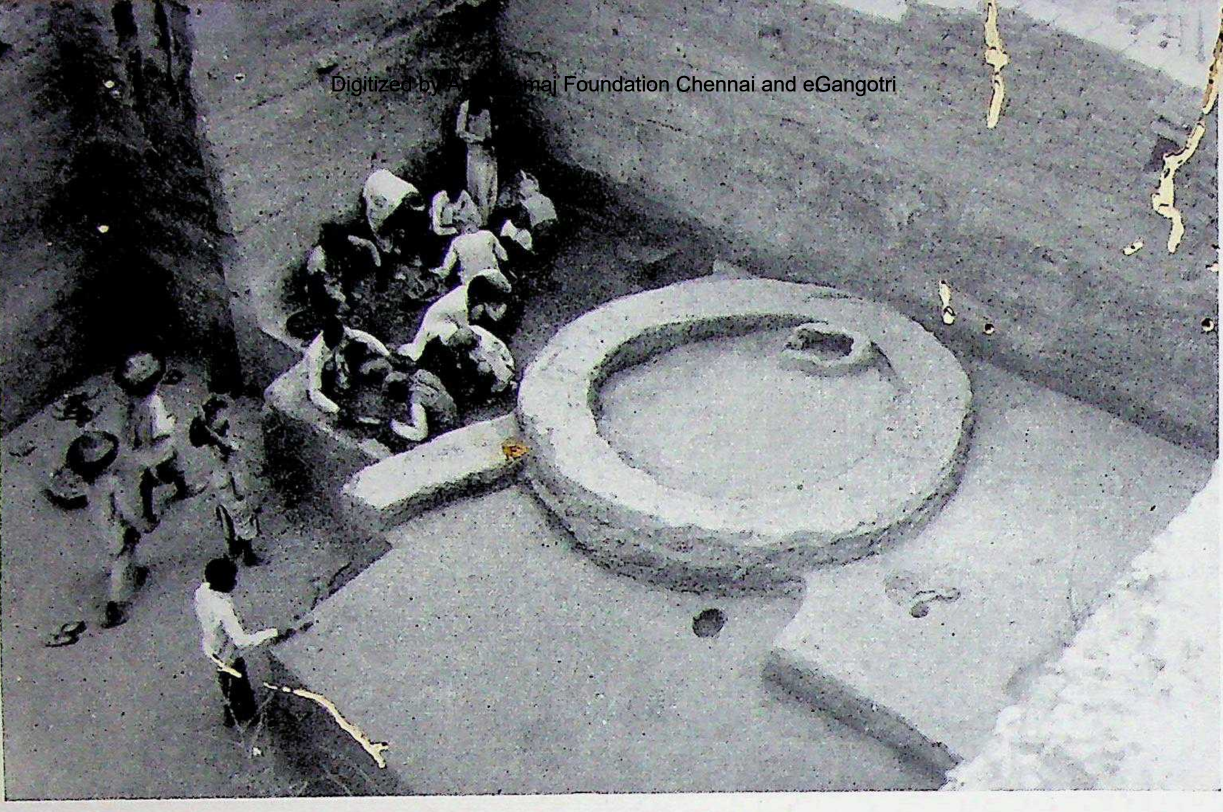

Fig. 3: Circular mud-house in Maurya Level 35

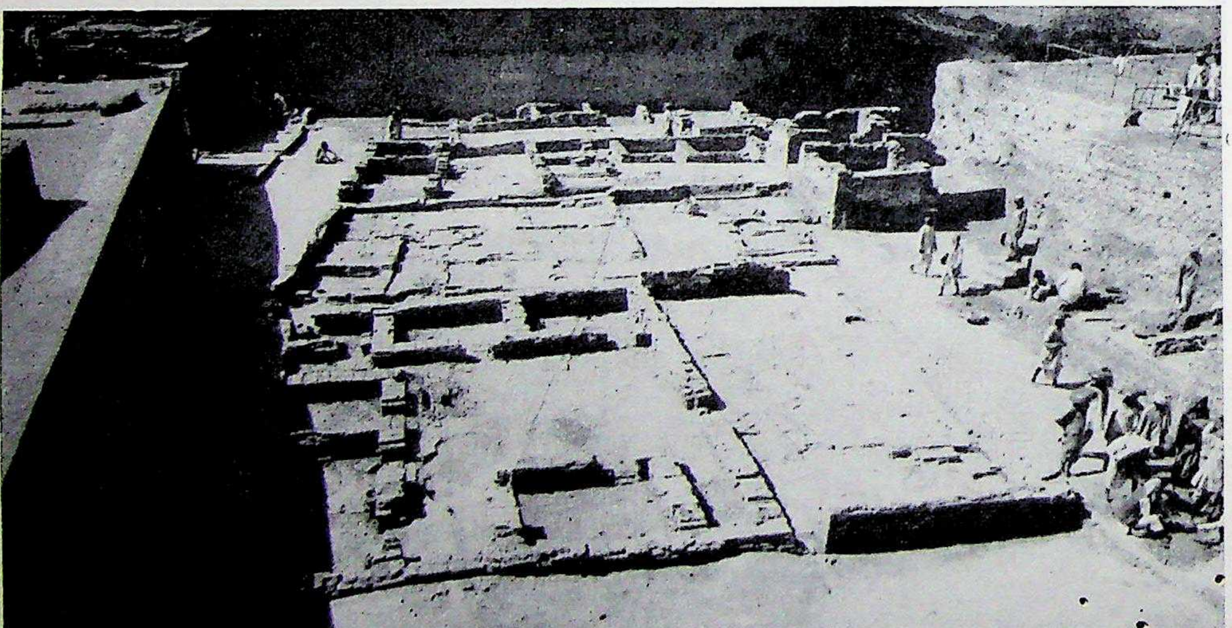

Fig. 4: Excavated area of Level 27

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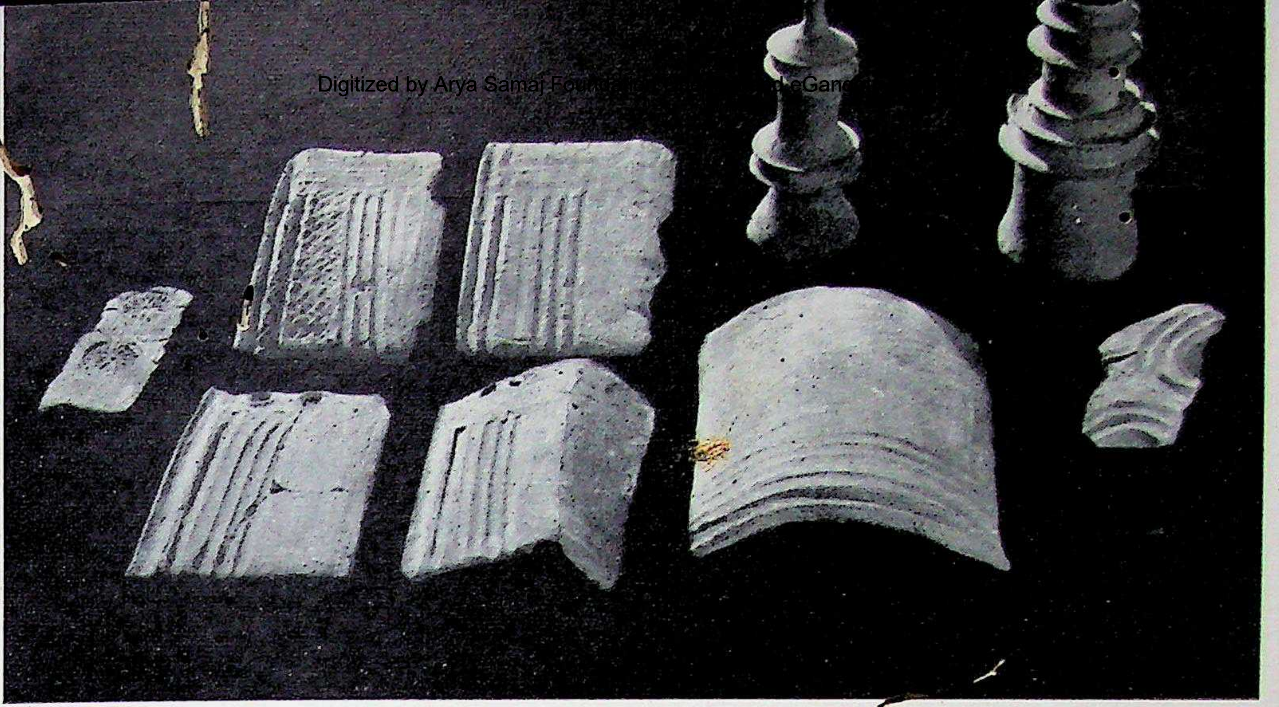


Fig. 6: Selection of roof tiles and pinnacles from Level 27

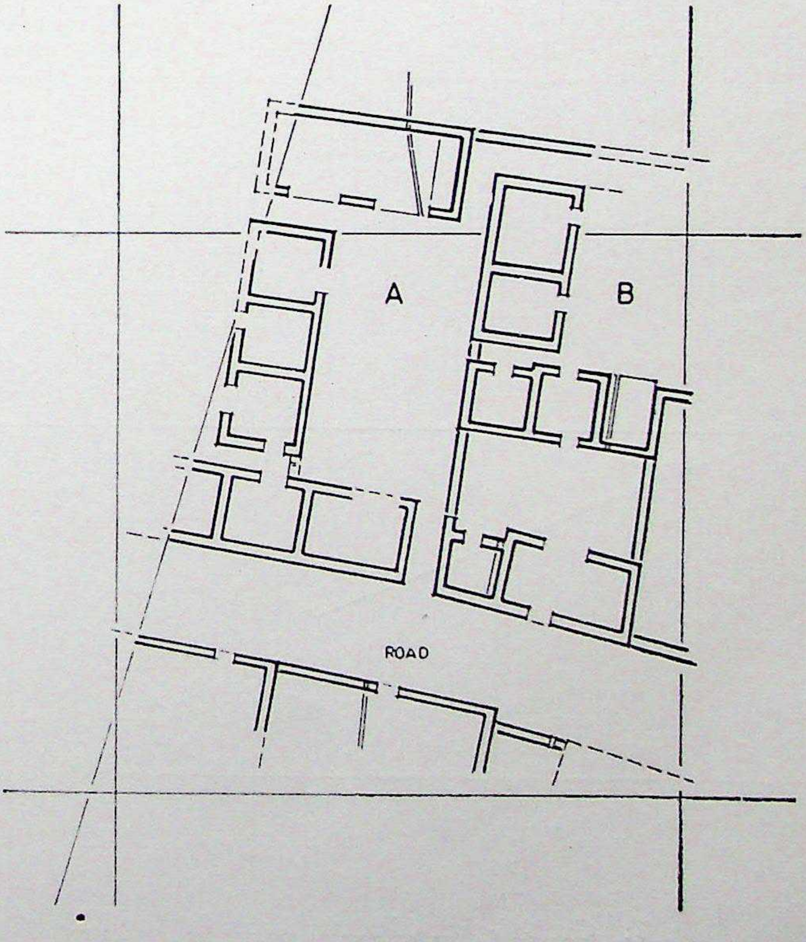
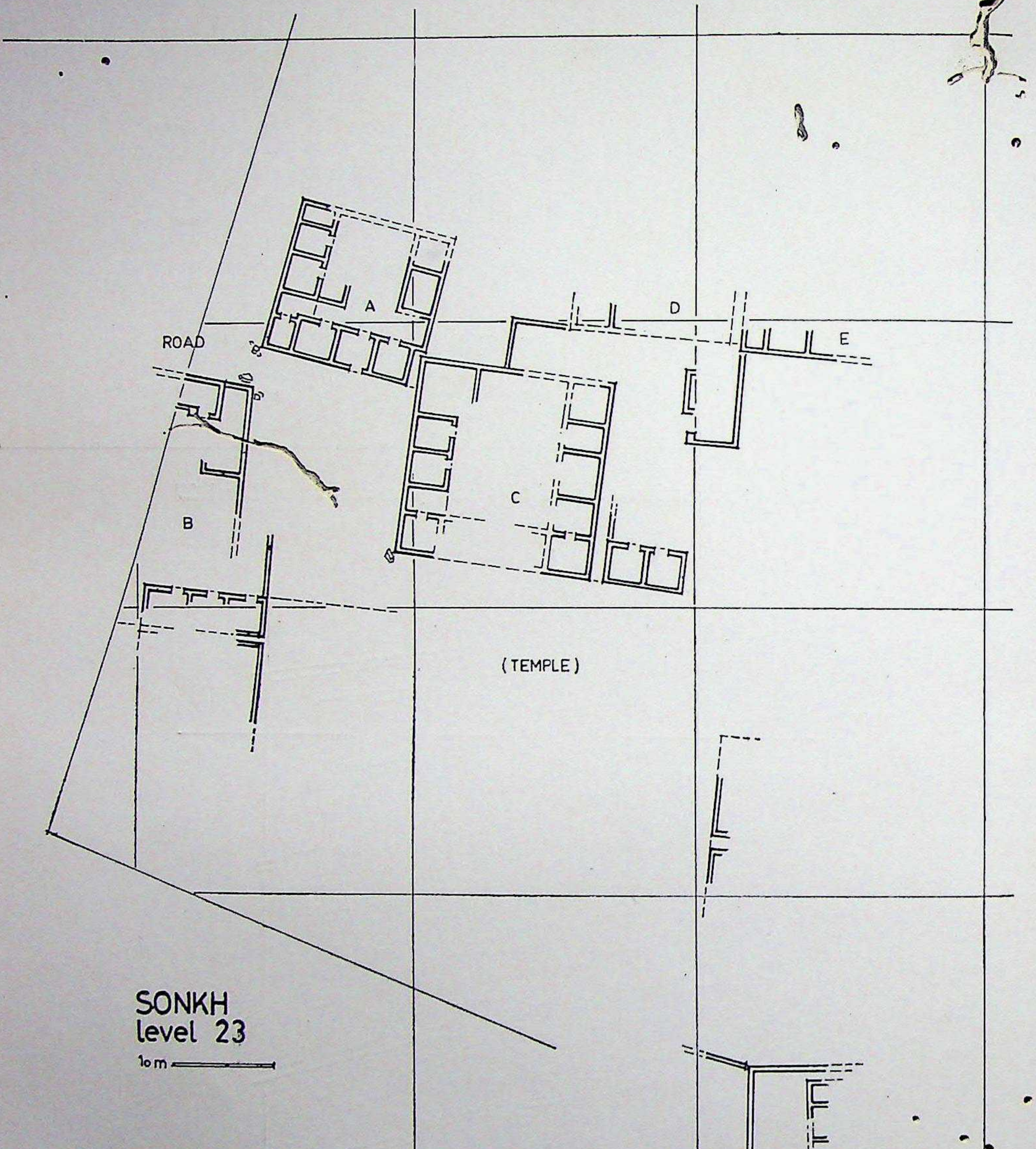

A
B
ROAD
SONKH
level 27
10 m

Fig. 7: Ground plan of two houses in Level 27


A
ROAD
D
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C
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(TEMPLE)
SONKH
level 23
10 m

Fig. 7: Ground-plan of some houses in Level 23

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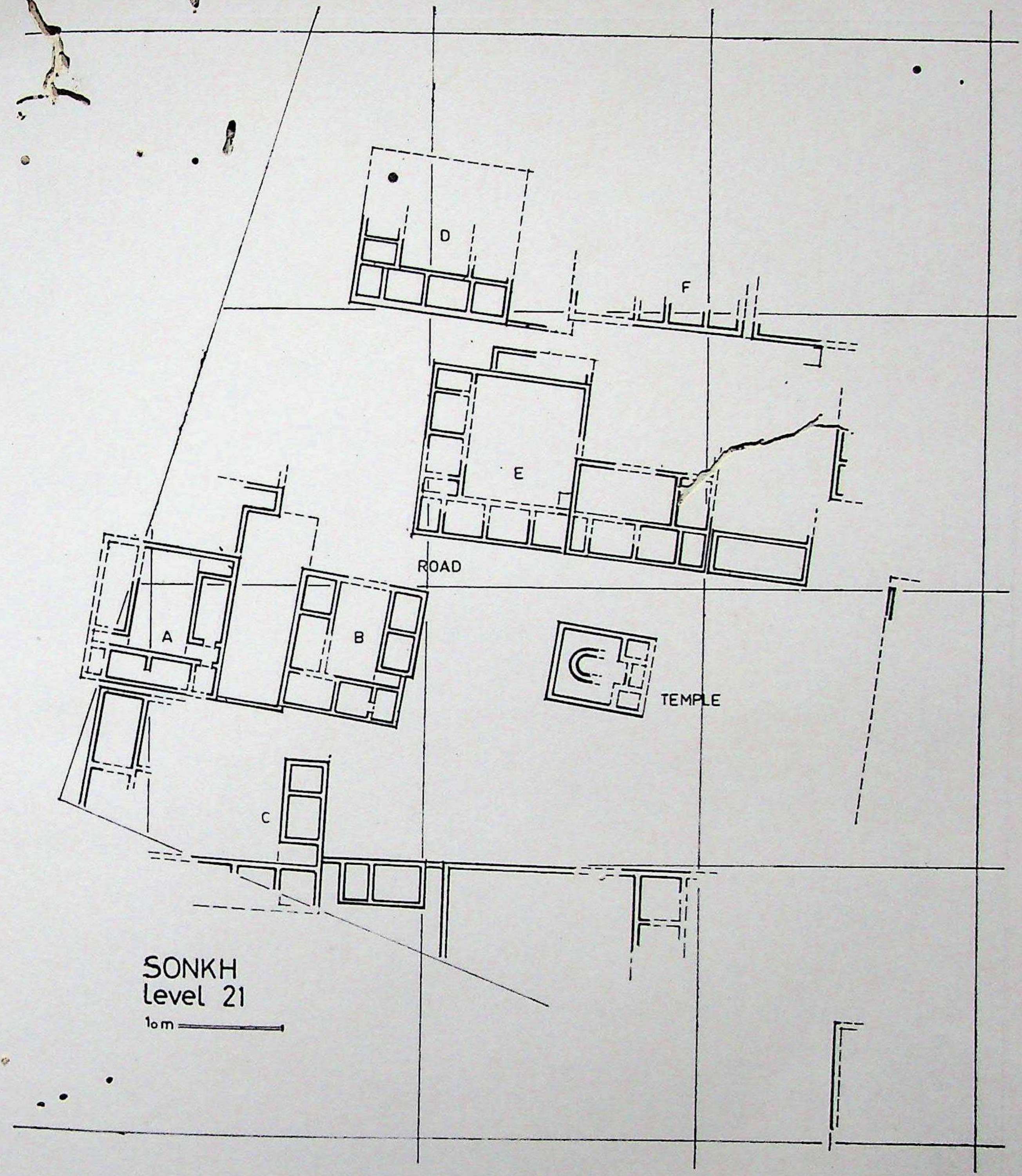
D
F
E
ROAD
A
B
TEMPLE
C
SONKH
level 21
10 m

Fig. 8: Ground-plan of structures in the southern excavation area

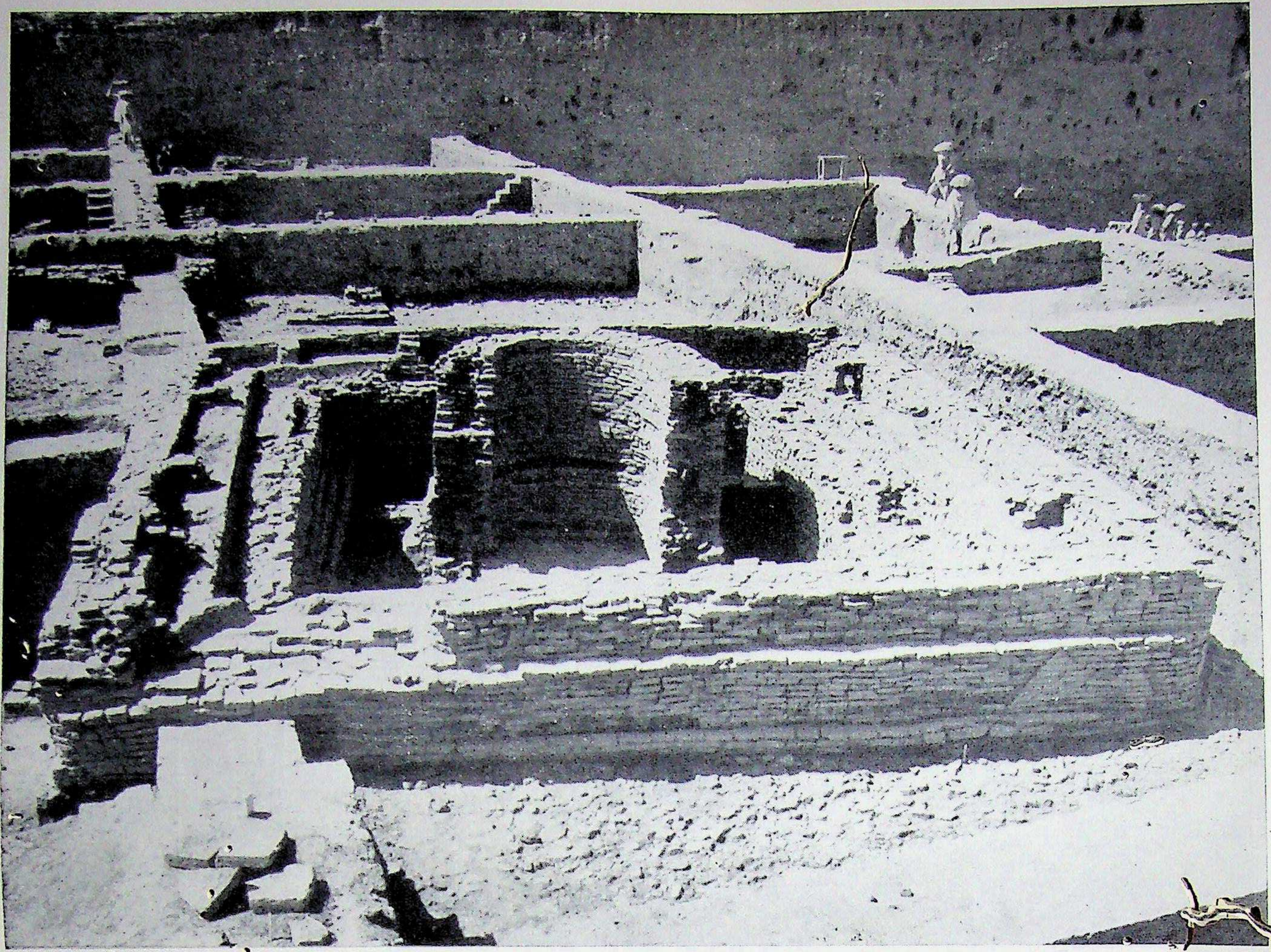

Fig. 9: Apsidal Temple No. 1 in the centre of Kuṣāṇa habitations

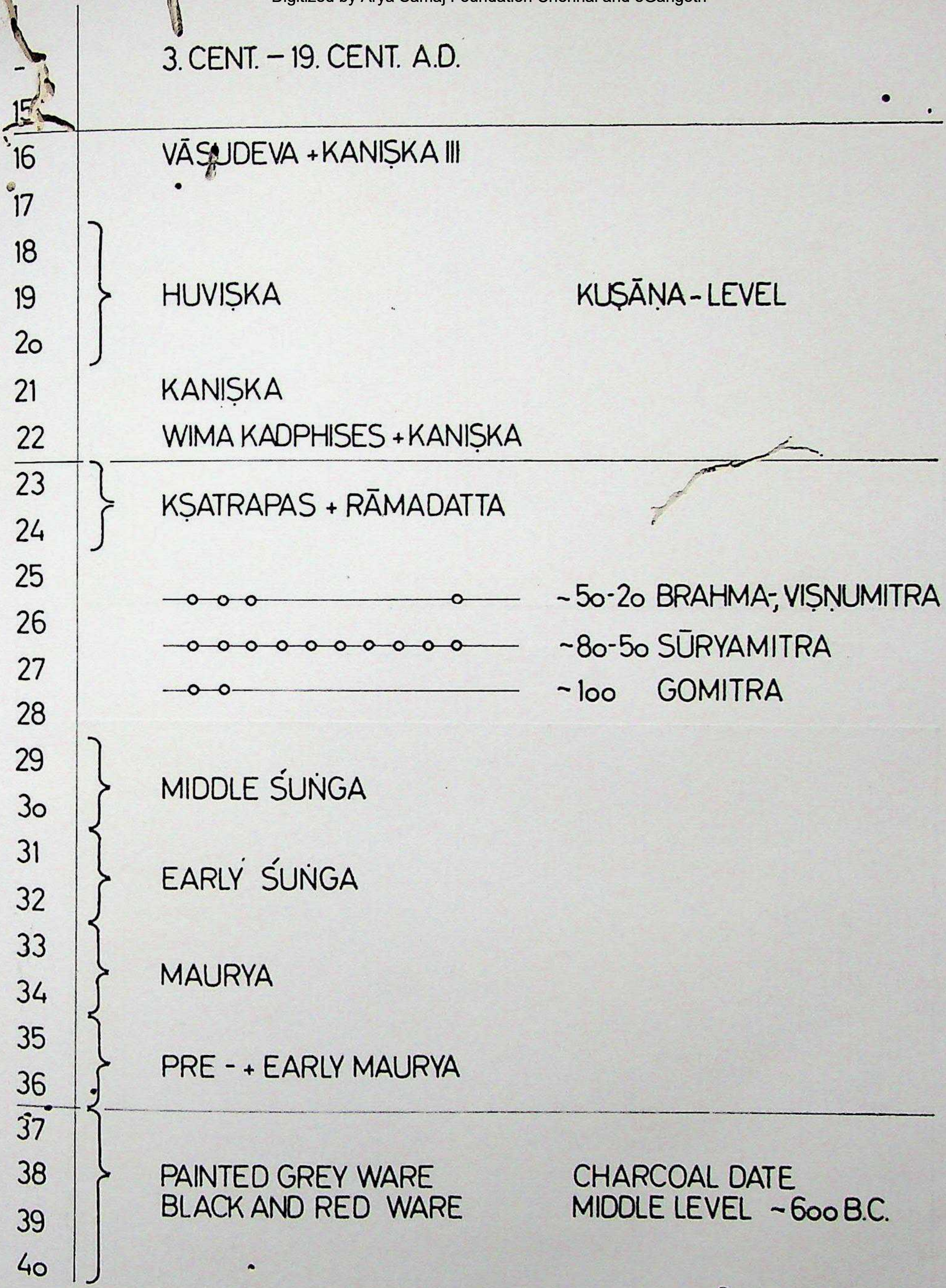
3. CENT. – 19. CENT. A.D.
15
16
VĀSUDEVA + KANIṢKA III
17
18
19
HUVIṢKA
KUṢĀṆA - LEVEL
20
21
KANIṢKA
22
WIMA KADPHISES + KANIṢKA
23
24
KṢATRAPAS + RĀMADATTA
25
~50-20 BRAHMA-; VIṢṆUMITRA
26
~80-50 SŪRYAMITRA
27
~100 GOMITRA
28
29
30
MIDDLE ŚUṄGA
31
32
EARLY ŚUṄGA
33
34
MAURYA
35
36
PRE - + EARLY MAURYA
37
38
39
PAINTED GREY WARE
BLACK AND RED WARE
CHARCOAL DATE
MIDDLE LEVEL ~600 B.C.
40

Fig. 10: Synopsis of the succession of levels in the Mound of Sonkh

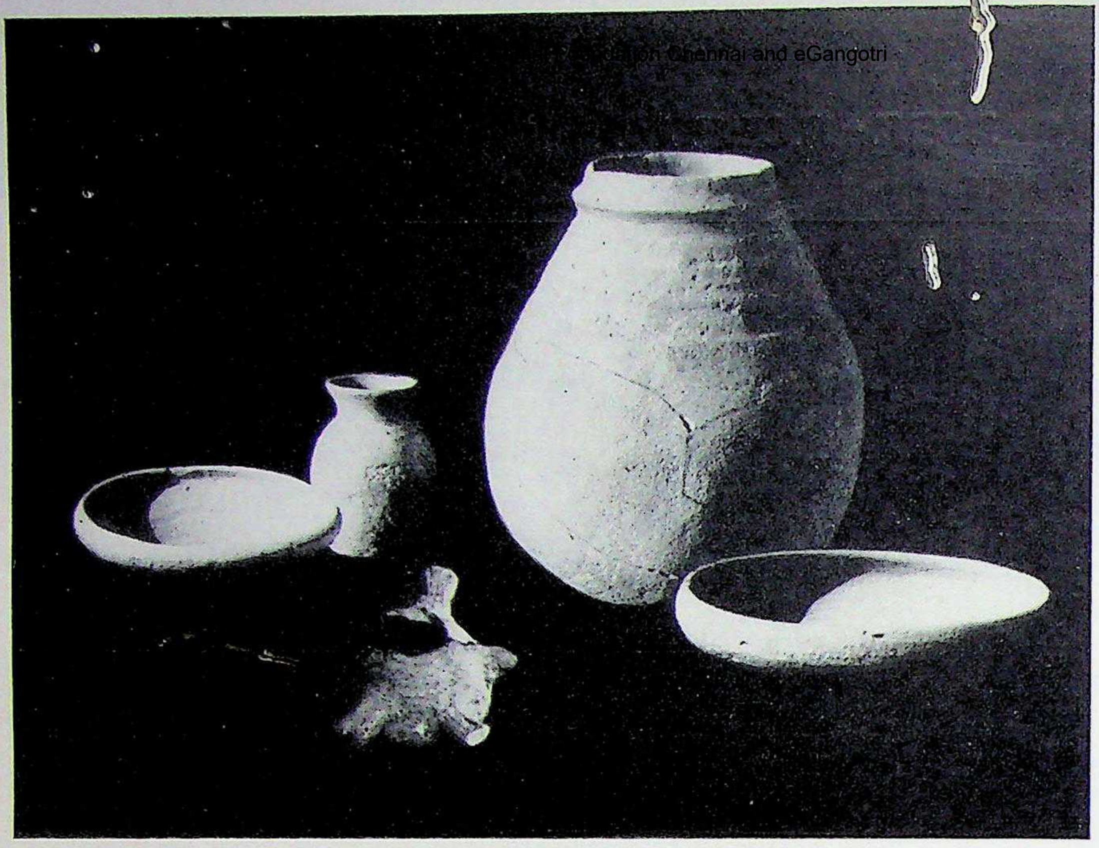

Fig. 11: Selection of common pottery from the Mauryan levels

Fig. 12: Group of pottery from the Sunga levels

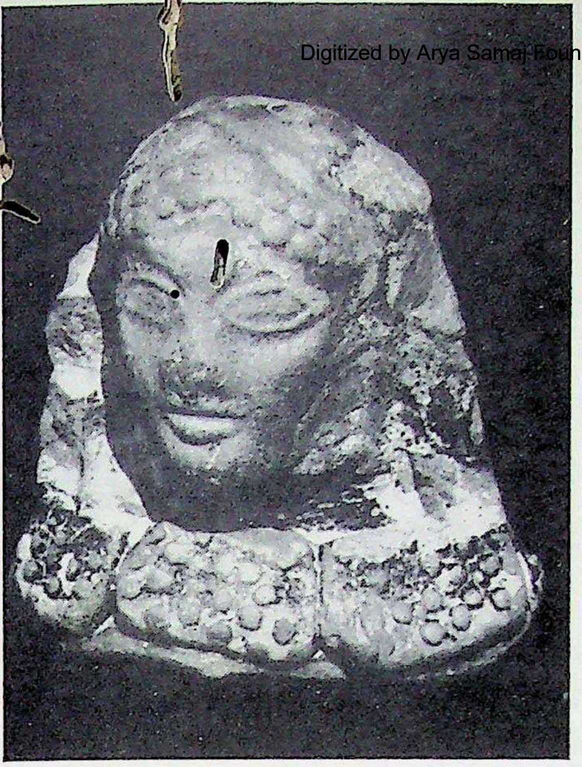

Fig. 13: Terracotta head of a Mātrikā figure. Maurya period

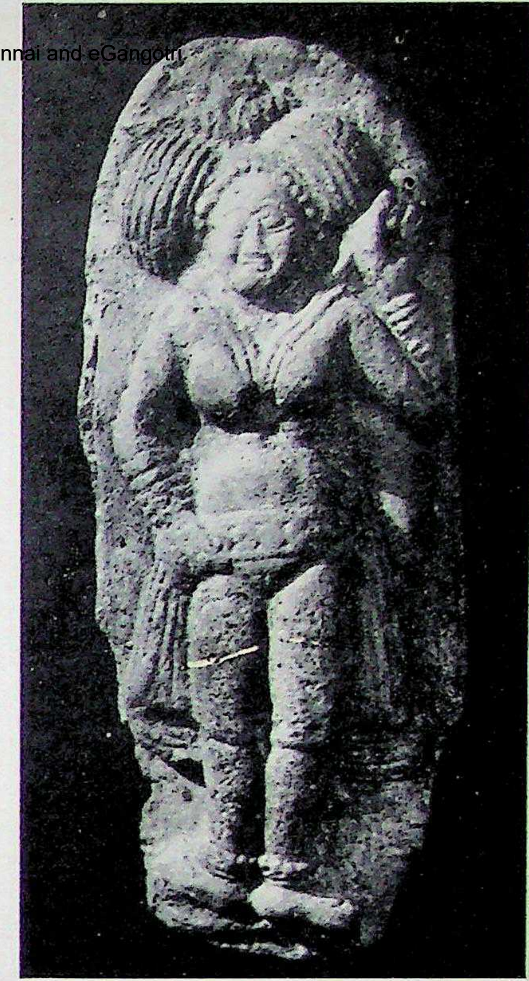

Fig. 15: Terracotta plaque representing a standing female figure. Levels 28-27

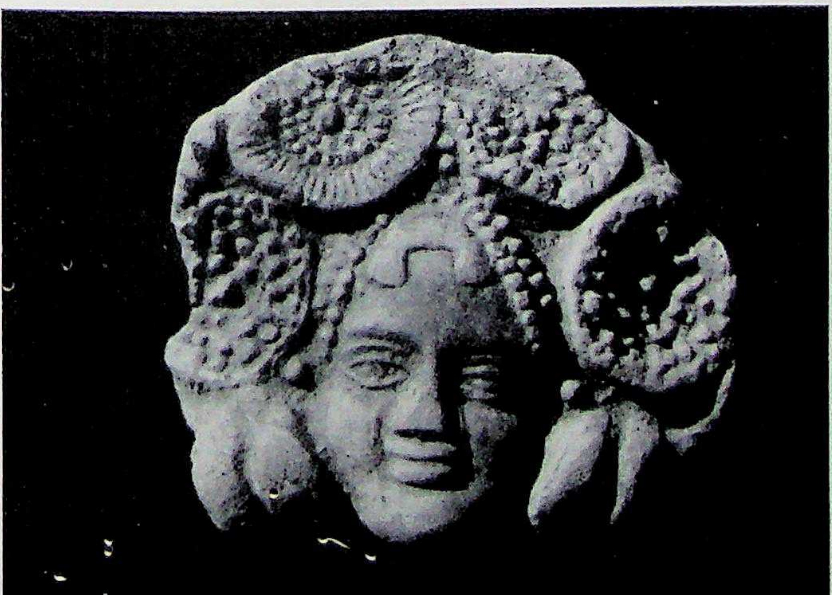

Fig. 14: Terracotta head of a Mātrikā figure. Śuṅga period

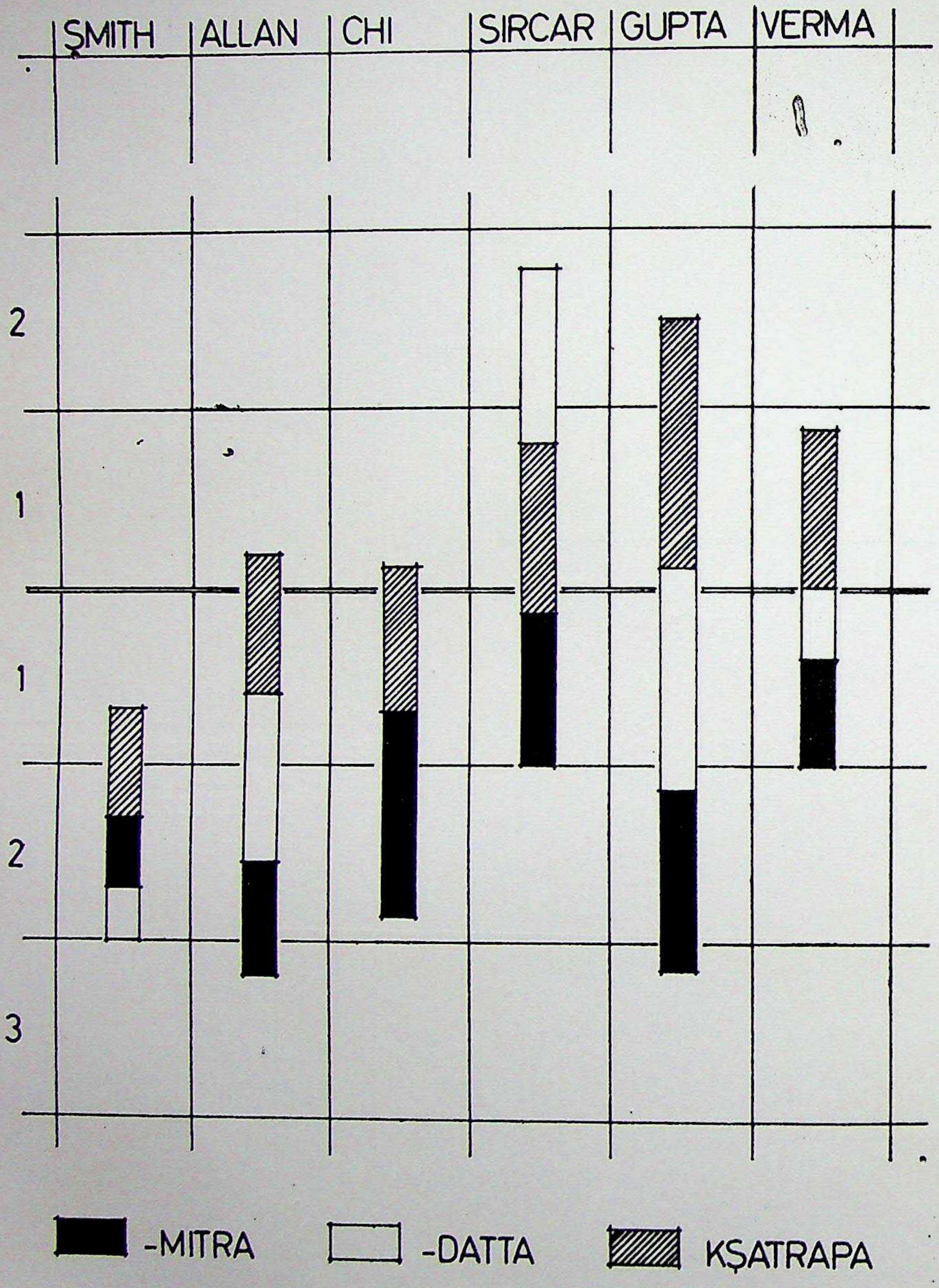

Fig. 16: Diagram of dating conceptions from different publications

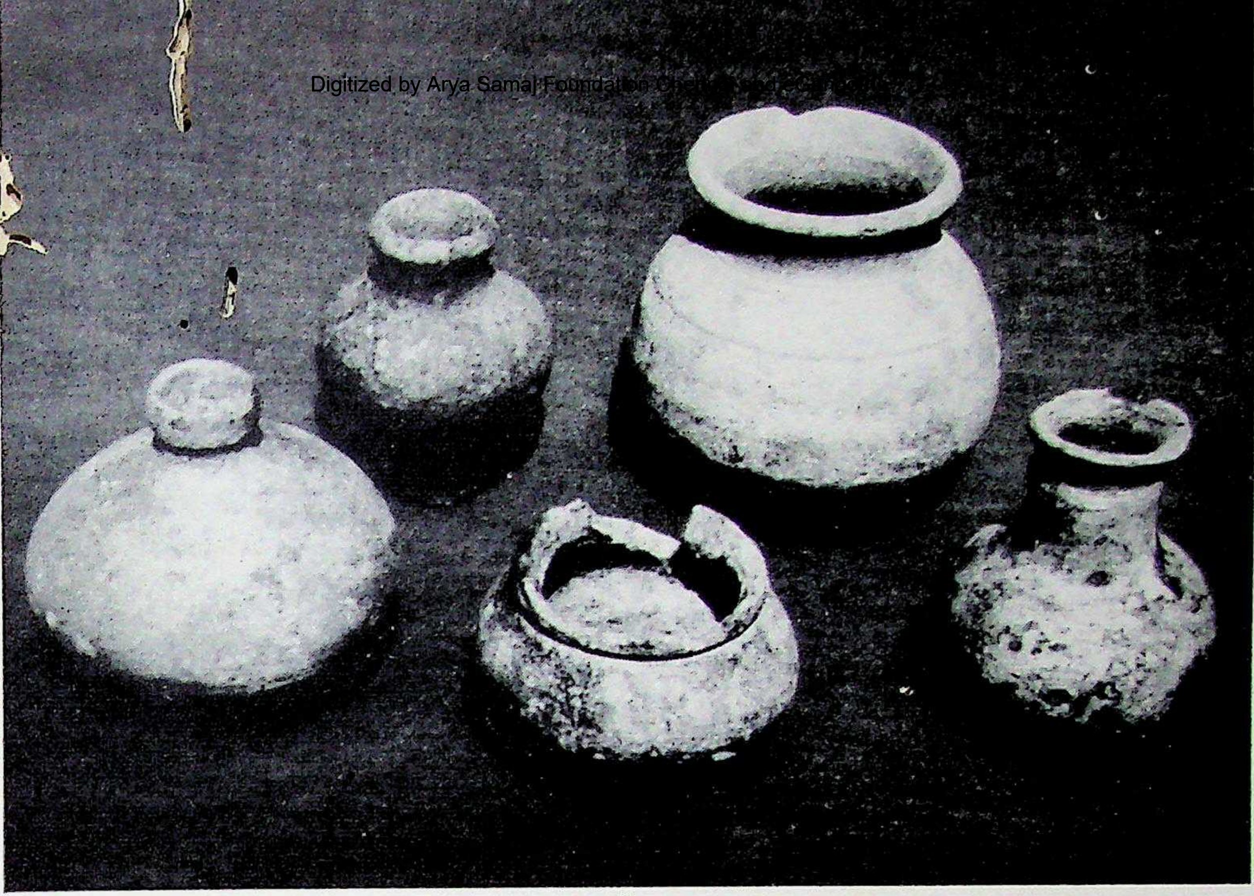

Fig. 17: Group of pottery from Level 26

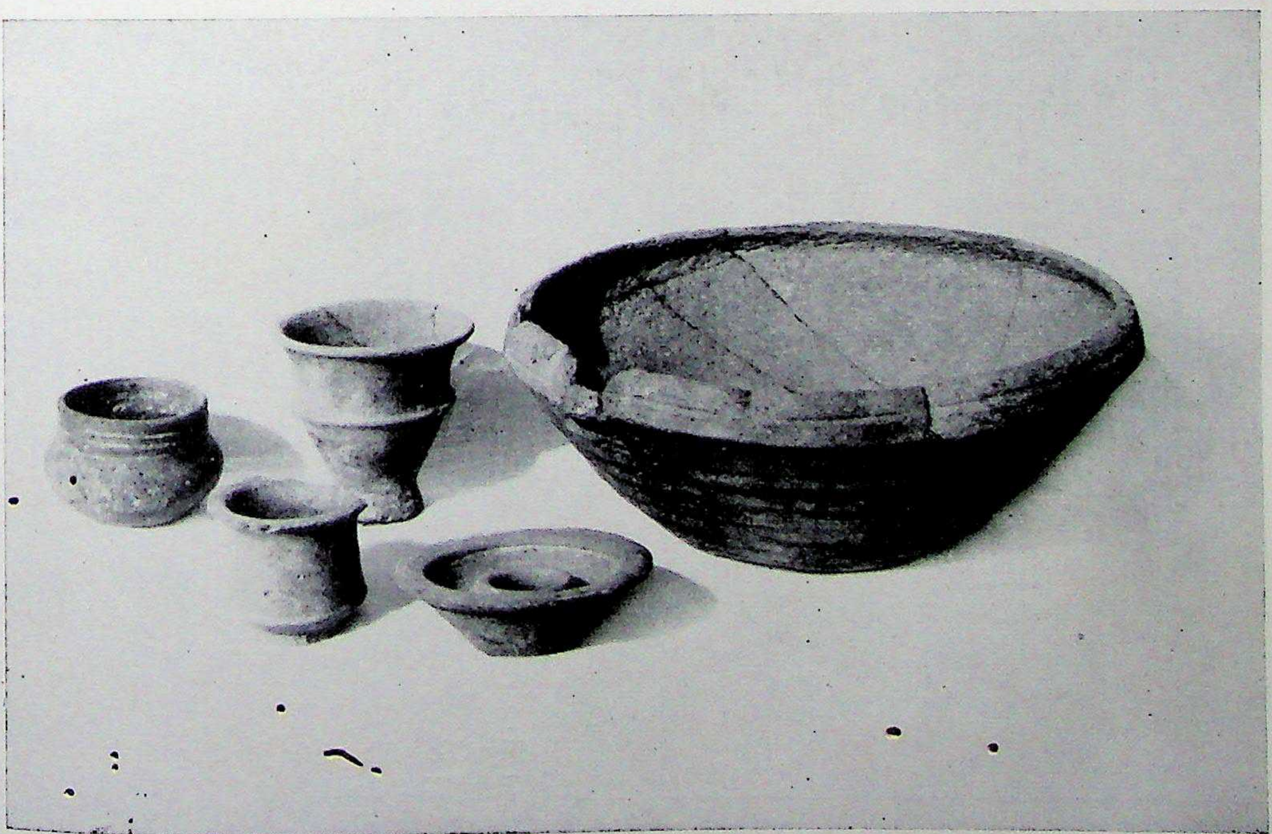

Fig. 18: Group of pottery from Level 23

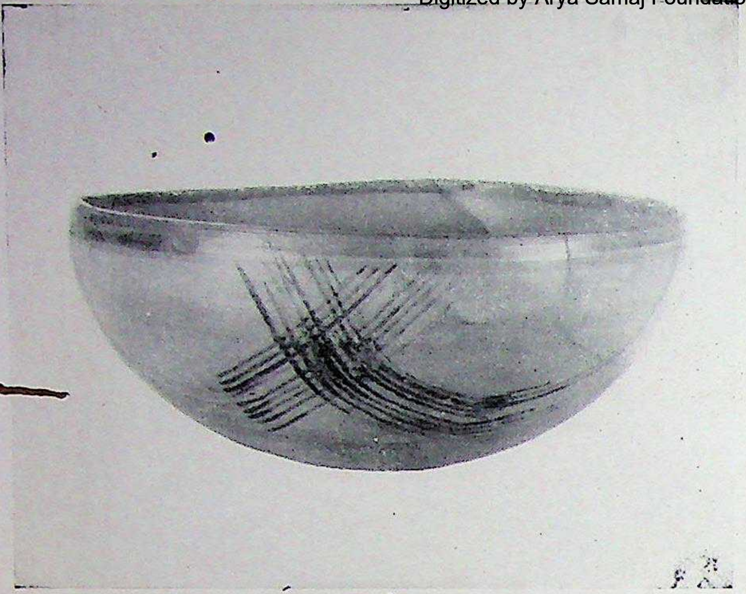

Fig. 19: Bowl of Painted Grey Ware

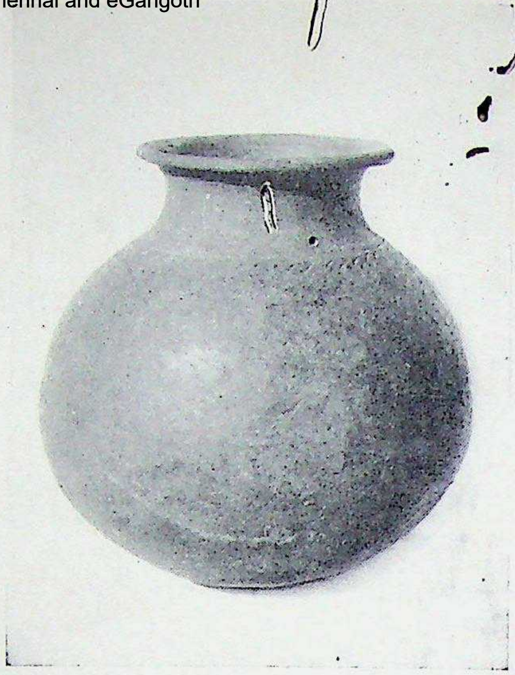

Fig. 21: Water vessel from Painted Grey Ware level

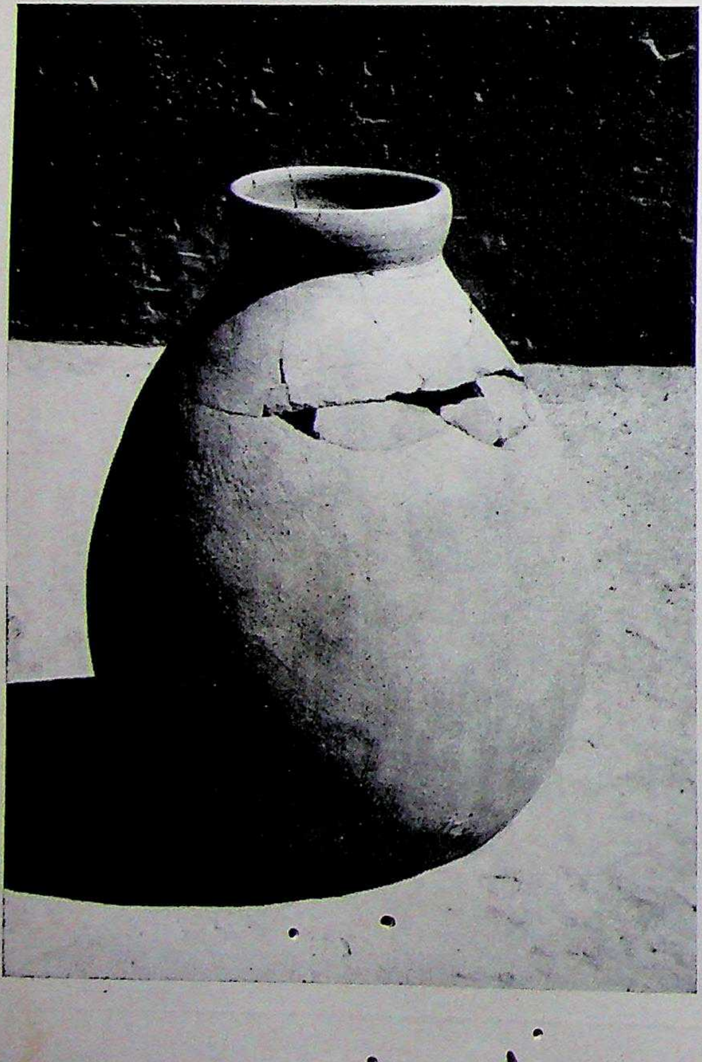

Fig. 20: Big water jar from Painted Grey Ware level

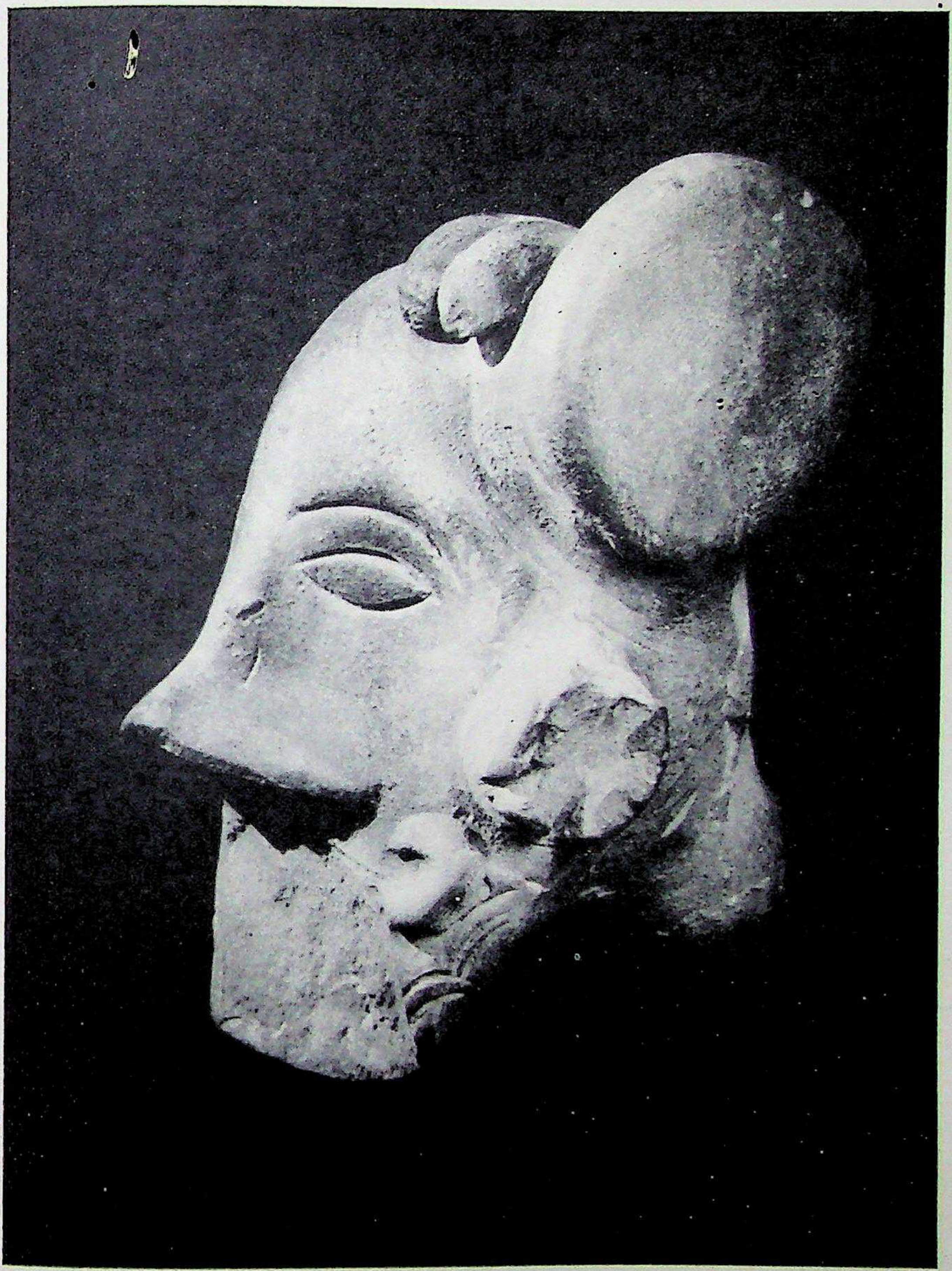

Fig. 22: Male terracotta head. Pre- to early Maurya period

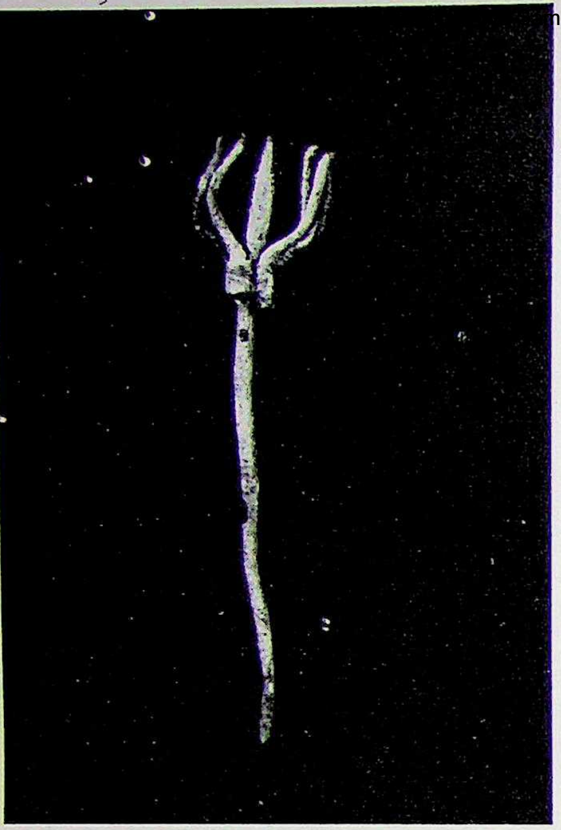

Fig. 23: Copper triśula from early Maurya period

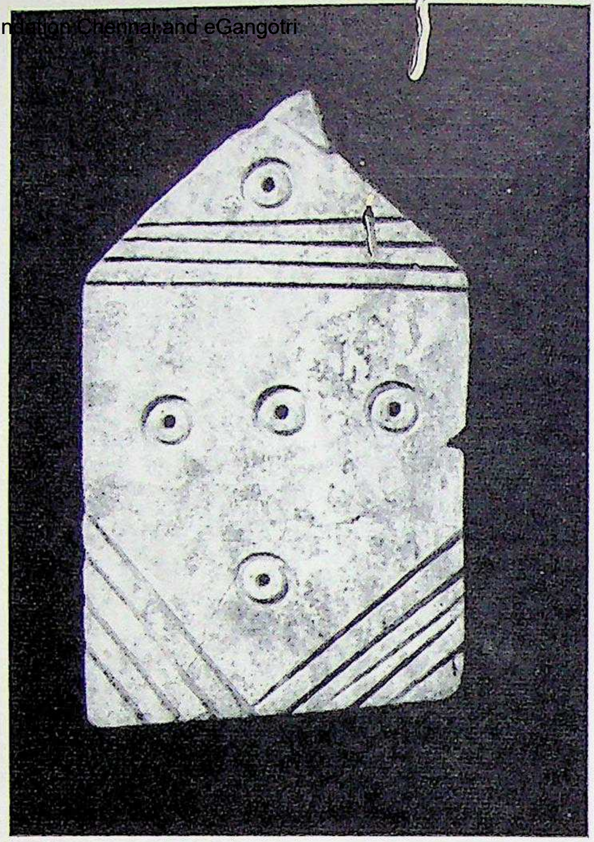

Fig. 24: Plaque of bone, representing lower part of human body

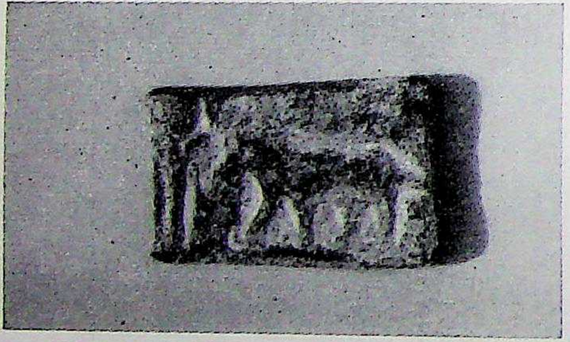

Fig. 25: Oblong-shaped copper coin from Level 33

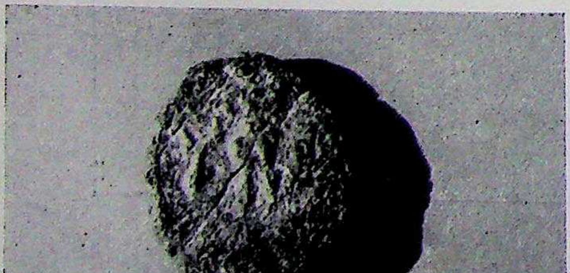

Fig. 26: Die-struck copper coin from Level 29

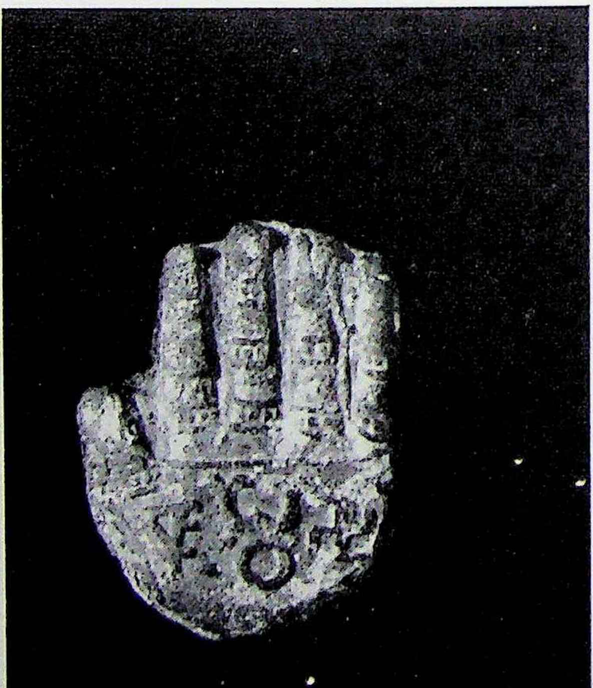

Fig. 27: Amulet in the shape of a hand. Terracotta from Level 27

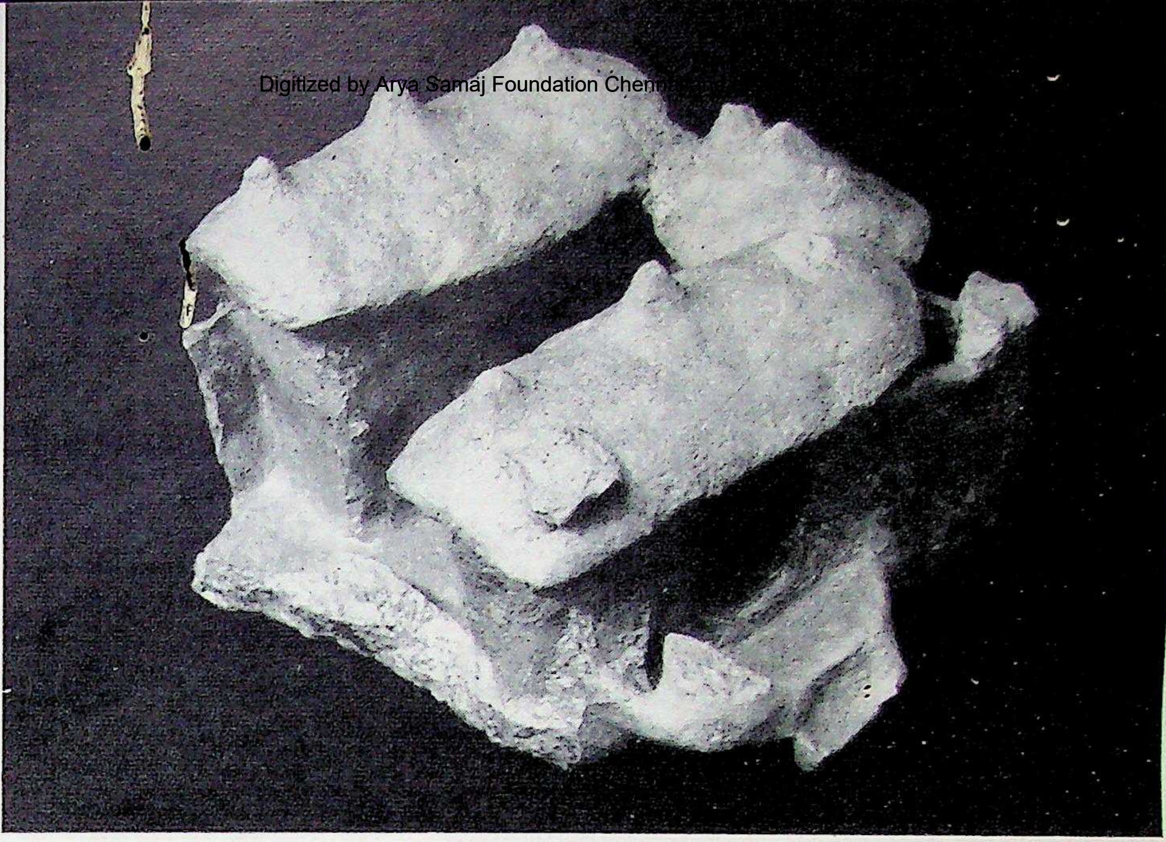

Fig. 28: Votive-tank in the shape of four houses

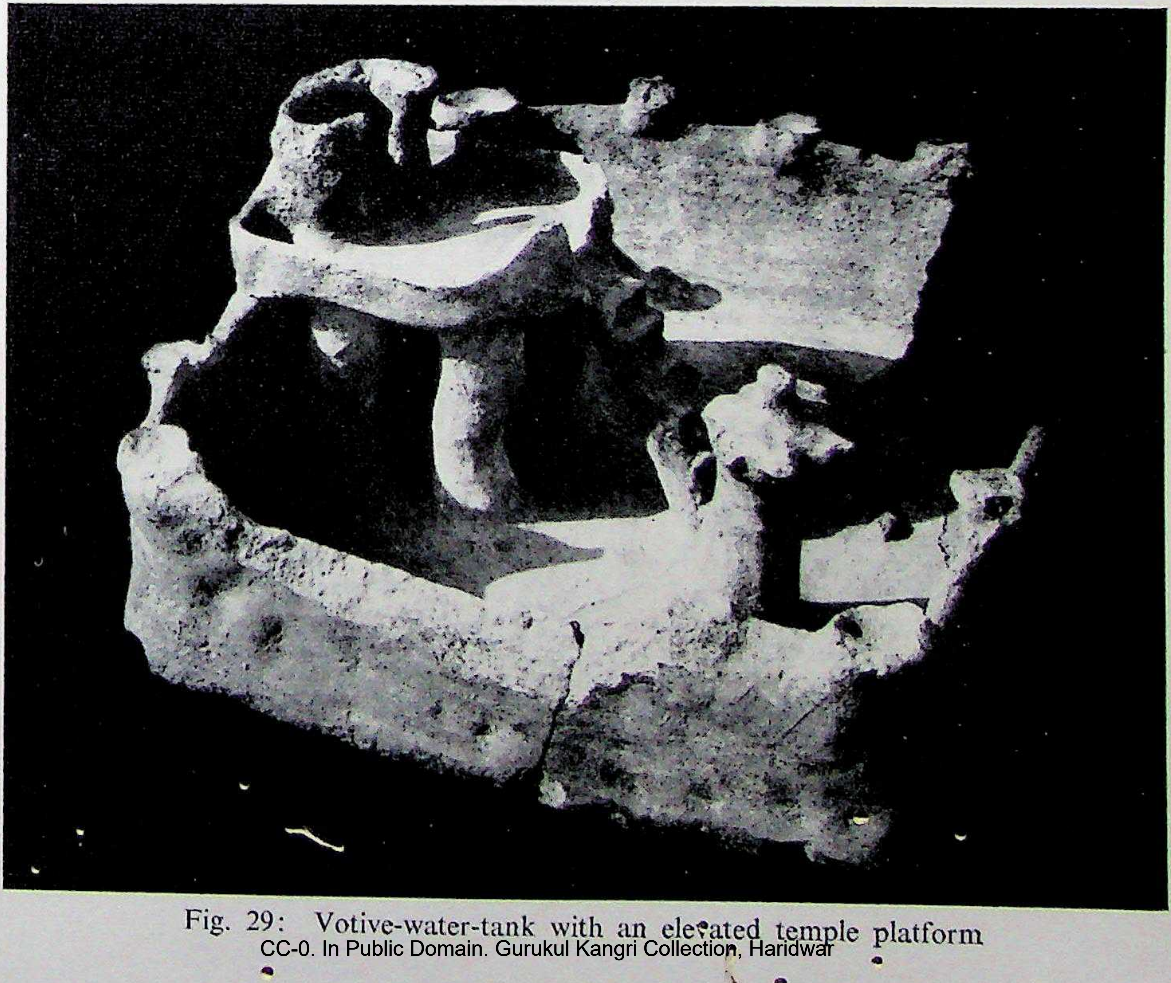

Fig. 29: Votive-water-tank with an elevated temple platform

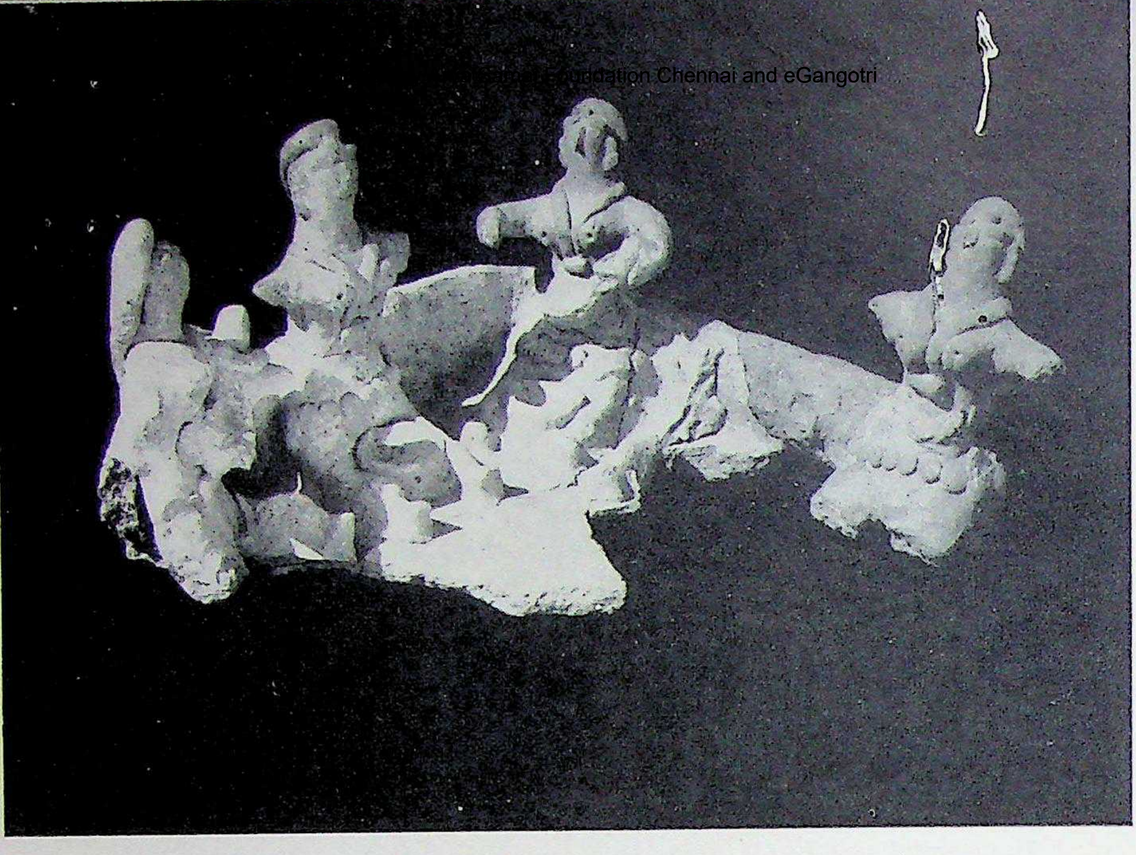

Fig. 30: Votive-tank with remains of four seated Mātrikā figures

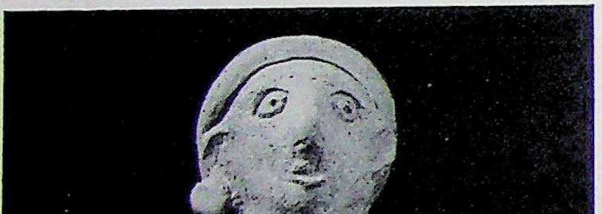

Fig. 31: Seated Mātrikā with child. Level 23

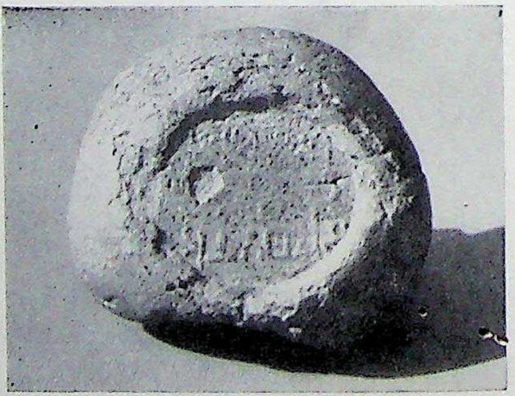

Fig. 32: Seal impression with Brāhmī and Kharoṣṭhī script

may, therefore, be drawn that, at the time of the Mitra kings, the circulating coins used to lose their validity with the death of the ruler.

The detection of the Mitra coins as described above is of an extraordinary importance for the assessment of historical events of that time in the whole of Northern India. It is worth while to place the results of the excavation in a wider context and to evaluate them from a higher point of view.

The sources used for publications on early Indian history are detailed lists of kings and dynasties from the different Purāṇas[1]. Nothing much seems to be wrong with the reported number of years for the individual dynasties, i.e. 137 years for the Mauryas and 112 years for the Śuṅgas. Other rich sources for the Mauryan era help us to put its date safely between about 320 and 180 B.C. And thus the Śuṅga rule can be placed between 187/184 to 75/72 B.C. But, in contrast to the Mauryan history based on the Aśokan reports, it appears to be very difficult to fill the 112 years of Purāṇic Śuṅga history with historical life. It is not much that we learn about the time from other sources, viz. the Sūtras of Patañjali, the verses in Kālidāsa's Mālavikāgnimitra and Bāna's Harṣacharita, along with a few inscriptional references to the Śuṅgas. As a matter of fact, the Purāṇa list is not even fully correct, quoting 120 years for the kings who, in its colophon, are reported to have ruled altogether 112 years. The Śuṅga period is, therefore, somewhat dark for the historians who have to follow a given date, even if they cannot vouch for it. The main question which obtrudes upon us is: did the Śuṅgas really control an empire comparable to that of the Mauryans, or did Northern India comprise numerous local states ruled by their vassals? On this problem there is a wide difference of opinion. Above all, the numismatists with their datings of local coins raise considerable doubt. The catalogues of coins of ancient India enumerate a large variety of coins with names of rulers, most of them ending in -mitra and -datta, from different states in North India, as for instance Almora, Ayodhya, Kauśāmbi and, of course, Mathurā. It is obvious that the dating of those coins is of special importance for the answer to our question. The standard work and most reliable catalogue in this respect is undoubtedly John Allan's "Catalogue of the Coins of Ancient India" in the British Museum. His datings have been accepted widely and used for historical observations. But as Allan dated the inscribed coins of several local states of Northern India in the 2nd century B.C. and one by Gomitra I, as the first of the Mathurā Mitras, even at the end of the 3rd century B.C., a considerable confusion has confounded our understanding of history. It is reflected in the publications and it may be useful to note the effects on a comparative diagram (fig. 16)[1]. Showing a selection only, it contains but all the different opinions on the problem. As one can see, there is an opposition to Allan's datings on the part of Sircar and Verma. Most disturbing is the fact that none of them gives reasons for his dating. However, even without the help of archaeological data, one point should be clearly stated: whoever places the Mitra coins in the Śuṅga period as Allan, Rapson (CHI) and Gupta have done, must face and explain the fact why not a single inscribed coin of the Purāṇic Śuṅga from the same time is known to us[2]. That only the vassals of local rulers issued coins in their name and neither Puśyamitra nor his successors in the Purāṇic list, seems quite improbable.

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[1] The main texts are Matsya-, Vāyu- and Brahmanāṇḍa-Purāṇa. For the different versions cp. F.E. Pargiter, The Purāṇa Text of the Dynasties of the Kāli Age, Varanasi (Reprint 1962), pp. 36 ff.

The significance of the archaeological sequence of coins in the mound of Sonkh should be clear against the background of this knowledge. In Levels 34 to 29, i.e., during the whole Maurya era till the second half of the Purāṇic Śuṅga period, silver punch-marked coins, uninscribed cast coins, copper punch-marked coins and die-struck coins came to light. Considering all the evidence of excavation and finds, Level 29 must have extended to the last quarter of the 2nd century, i.e. near about 120 B.C. After that, the first inscribed coins appear, namely, those of Gomitra and the Mitra rulers following him. In the light of this result, the local State of Mathurā seems to have been founded at the end of the 2nd century B.C.

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[1] Smith, V. A. : Coins of Ancient India, Catalogue of the Coins in the Indian Museum, Calcutta, vol. I, Delhi-Varanasi, Reprint 1972; p. 190 f.
Allan, John : Catalogue of the Coins of Ancient India, London 1936.
CHI : Cambridge History of India, ed. by E.J. Rapson, vol. I, Delhi, 3rd Reprint 1968; p. 474.
Sircar, D.C. in : The Age of Imperial Unity. History and Culture of the Indian People, vol. II, Bombay 1953, p. 171.
Gupta, P.L. : The Coinage of the Local Kings of Northern India and the Date of Kaniṣka. In: Papers on the Date of Kaniṣka, Leiden 1968, p. 114-120.
Verma, T.P. : Palaeography of Local Coins of Northern India. In: Seminar Papers on the Local Coins of Northern India, Varanasi 1968, p. 137-143. (A very important paper).

[2] Cp. Prasad, H.K. : Did the Śuṅgas issue Coins? In: INSI, vol. XVII, 1955, p. 24-36.

We hope the succession of coins in other local states of Northern India can also be established archaeologically. It is, of course, quite possible that one or the other state may have been founded somewhat earlier; the disintegration of the Śuṅga Kingdom, however, began most probably in the last third of the 2nd century B.C. This would also explain why no inscribed coin of the Imperial Śuṅgas can be found: the early Śuṅgas issued punch-marked and die-struck coins, they did not yet know the process of minting inscribed coins. These came, in fact, first into use in the local states.

Independent of these considerations, the findings of Sonkh confirm the sequence of the Mitra kings in the following order: Gomitra, Sūryamitra, Brahmamitra, and Viṣṇumitra. However, Dṛḍhamitra, included in Allan's Catalogue besides Goṣadatta (to be eliminated) and like him proved by a single piece of evidence only, is not found at Sonkh.

The placing of Gomitra into a phase subsequent to the middle Śuṅga period of the Purāṇa-lists can hardly be doubted. It is more difficult to determine the length of the rule for the following Mitra kings. But it would be unrealistic and incompatible with all excavation experience to assume a substantially longer period than 20 years for the individual levels. The data of the synopsis (fig. 10) are, therefore, to be taken with a grain of salt; nevertheless, a shift to either side of more than two or three decades seems to be quite improbable. Moreover, the group of the Mitra levels is embedded in an uninterrupted sequence of building activities. In fact, no more Mitra coins appeared in Level 24 where, on the contrary, two coins of the Kṣatrapa Hagāmaśa and one of Rāmadatta were found side by side. Immediately above, in Level 23, about twenty further Kṣatrapa coins were unearthed within the houses and on the roads. Some of them are Mathurā issues of Rajūvula; the bulk hails from Śoḍāsa. Besides, within the same level Rāmadatta coinages were found again. It seems as if the rule of the Kṣatrapas overlapped the reign of Rāmadatta. Noteworthy is that only Rāmadatta coins were detected and none of the other numerous -dattas. The outcome of the Sonkh excavation raises the question, whether the dynasty of the Dattas can be taken as a continuous one with fifteen rulers in succession. May it not have been that most of the Dattas ruled concurrently in small subdistricts of Mathurā and that the period of their reign extended over a few decades only? It would be interesting to know, which Datta coins were found in other parts of the Mathurā district. D. C. Sircar's dating of the Dattas subsequent to that of the Kṣatrapas, i.e. into the Kuṣāṇa-time could not be confirmed at Sonkh contrary to his quite acceptable date for the Mitras.

The occurrence of an element of a different culture within Level 23 has already been observed in Chapter 3 dealing with the building activity. In this level, for instance, the roof construction and the lay-out of the houses underwent changes. The shape of pottery as found in Levels 26 and 25 (fig. 17) was replaced by new types of earthenware. Yet it cannot be overlooked that along with the independent ceramics of Level 23 (fig. 18) the first examples and elements of stamped Kuṣāṇa pottery appear. With its applied Svastika- and Nandyāvarta- patterns being perhaps the Rāmadatta element, the special ware of Level 23 acts as link between the ceramics of the Mitra-time and the Kuṣāṇa pottery.

Among the finds, the numerous figures of a particular type of mother-goddesses, described in Chapter 5 (fig. 31), attracted our attention. No single figure representing Kubera, Skanda or Durgā had so far been found; this appeared all the more astonishing as in Level 22 the cult of these gods was quite common. In this connection a seal-impression may be mentioned bearing the name Anaṅgabala in two scripts, i.e. in Brāhmī and Kharoṣṭhī, which throws light on the eclectic nature of that culture (see Chapter 5, fig. 32).

Naturally, for the Kṣatrapa-levels again no absolute date can be given. But there is no doubt that the reign of the Kṣatrapas follows the rule of the last Mitras. The sequence of levels requires for Hagāmaśa a date in the end of the first century B.C. Even without any attempt at dating Rajūvula and Śoḍāsa, it is evident that at Sonkh their reign reaches into the early decades of the Christian era.

Transition from the Kṣatrapas to the Kuṣāṇas

The excavators were fully aware how important it would be to observe the transition from the Kṣatrapas to the later levels. In many places they investigated again and again whether there was any sign of an interval indicating a temporary absence of colonisation. All the results did, however, point in the opposite direction: the mound of Sonkh was built upon continuously and hence also during the phase in question. The interlocking and re-use of old walls as seen everywhere in Sonkh and the well-preserved foundation walls do not allow any other conclusion but that

Level 22 was built directly on the worn-out remains of Level 23 in its late phase. This Level 22, on the other hand, while still evincing a transition as far as the size of bricks is concerned, produced the first Wima Kadphises and Kaniṣka I coins together with cultural objects of the Kuṣāṇa period and style. From Level 22 up to Level 16 Kuṣāṇa habitations follow in uninterrupted succession. Four of the altogether seven Kuṣāṇa levels in the mound of Sonkh, through coins, other finds and circumstantial evidence, can be connected with the following rulers:

Level 16 = Vāsudeva I / Kaniṣka III
Level 18 = Huviṣka
Level 21)
Level 22) = Kaniṣka I

However, the succession for Levels 17, 19 and 20 still remains somewhat uncertain because of weaker evidence.

The dating of the Kuṣāṇa levels naturally depends on the dating of Level 22 which is identified, through finds, not only as the first Kuṣāṇa, but also as the Wima Kadphises/Kaniṣka I level. The key is supplied by the doubtlessly close association with Kṣatrapa Level 23. In whatever way we make use of the possibility admitted before to extend the dating from the Śuṅgas to the Mitras, from the Mitras to the Kṣatrapas and the Dattas by a few decades, we would yet have to place the Kṣatrapas hardly beyond the middle of the first century A.D. Notwithstanding the theory one may follow in dating Kaniṣka I, after Sonkh there is no justification of placing him in the second or even in the third century A.D.

5. Some Remarkable Finds

In the course of eight excavation campaigns, more than 12,000 objects of art and articles for daily use, inclusive of fragments, were unearthed. The most voluminous were the groups of terracottas, pottery and beads followed by objects in stone, metal, glass and shell. The detailed publication on the excavation which is under preparation will show an abundance of material. From among these objects only a few which are particularly interesting and remarkable can be presented here.

Let us start with two special vessels of the *Painted-Grey-Ware Period.* The fancy pottery, after which this period has been named, with its single and combined patterns of strokes, dots and curves painted in dark colour is represented in Sonkh by many specimens (fig. 19). A large amount of broken coloured ceramics of this type, mostly comprising bowls, dishes, small cups and flasks, were excavated. Less known is the contemporaneous *red utility ware*. Fig. 20 shows a single wheel-made vessel, 26 cm high, which to our knowledge is the largest known in the Painted-Grey-Ware-Period. The clay of the pot is mixed with chaff and terracotta splinters and not sufficiently baked. On the inner and outer side the undecorated vessel shows a coating similar in colour to its natural tinge. It was discovered in the open beside a fireplace, therefore allowing the conclusion that it was used as a water vessel. The second complete jar from the Painted-Grey-Period is much smaller but in its entirety and make another outstanding example of the common pottery (fig. 21). The ochre coloured pot is wheel-made and slightly embossed. The jar's shoulder is embellished with scratched lines and dent-in wedges. Formed like a loṭā, it certainly served as a water-jar.

Compared to these vessels, some specially striking objects of the *Maurya and Śuṅga Periods* are more figurative. First of all, there is a grey-coloured, black-slipped head of a *male terracotta* from Levels 36 to 35 (fig. 22). It is important for three reasons: 1) Its definite location allows an archaeological dating into the transition phase between the pre-Maurya and the early Maurya period, i.e. into the second half of the 4th century B.C. To our knowledge there is no other terracotta of this period that can be dated with equal accuracy. 2) The head is formed in a hitherto unknown style. Indeed, the pointed "nose-face", and the two braids of hair falling down on the forehead remind us of the beak-type, but the chignon possibly covered by cloth and tied on the left side as well as the region of the eyes and beard give evidence of a developed craftsmanship. Instead of the expected rhombic form of eyes there are clear curved lines. The remaining beard shows that it was indicated by multiple overlapping circular lines. The moustache is turned up and bent inwards in a daring curve. The nose keeps its original form with the nostrils showing at its root. The stretched neck and raised chin display self-confidence. 3) The head is also of interest for its being male whereas most of the known Maurya-terracottas are, with a few exceptions, Mātrikā-figures.

The next unusual object is a *copper triśūla* (fig. 23). Originally the needle, 8, 6 cm long, branched out into seven prongs. On either side of the thick middle-prong three bent wire spikes were soldered. One of these is missing in the excavated specimen. Presumably, it represents the oldest form of a triśūla in Indian art. The piece was found within Level 35 and is, therefore, to be dated into the end of the 4th century B.C.

In a number of excavations in Inḍia a few strange *plaques of bone* were found. They show on their smoothed surface diagonal and horizontal strokes and small holes surrounded by circles. In Sonkh too one of these rare pieces was unearthed (fig. 24). The arrangement of circles and lines cannot be interpreted by itself, but a comparison with a more complete piece found in Prabhas Patan[1] makes it obvious that it represents the lower part of a probable female figure to be supplemented above by two horizontally arranged arms and a triangular face. Such figures may have been used as amulets. Its findspot within Level 34 sets the date in the beginning of the 3rd century B.C.

Among the *numerous coins* of Sonkh there are several specimens interesting for the numismatist. Two of them will be described here. Fig. 25 shows an irregularly oblong-shaped copper coin with one-sided stamping. The coin is die-struck. The reverse is plain, the obverse shows a lion turned to the left, standing before a dhvaja-like object. This coin measures 1, 16 x 1,84 x 0,25 cm, its weight being 2,962 grams. The type is not unknown but its attribution to Taxila is left in doubt in Allan's Catalogue of Indian Coins in the British Museum[2]. Allan is of the opinion that such coins "are more probably from the United Provinces, as two of the B.M. specimens came from the Nelson Wright Collection and Cunningham, though he illustrates them, does not describe them under Taxila". Three such coins have been excavated at Sonkh. While one of them was found in a level rather too high, the other two came from Levels 32/33, through which they can be dated into the early Śuṅga period, i.e. in the first half of the 2nd century B.C. The finding of more than one specimen of this coin proves that Allan was right when he conjectured that they could have come from the United Provinces. However, from this evidence alone the conclusion cannot be drawn that this type of coins originated from the Mathurā District.

The second coin, selected for this report, is not less interesting (fig. 26). It is a round, die-struck copper-coin measuring 1,19 x 1,32 x 0,32 cm and weighing 1,197 grams. The reverse shows three circles representing a special type of the so-called Ujjain-symbol. The obverse surprisingly depicts a standing human figure, very similar to the well-known Śiva-before-bull-pattern of the Kuṣāṇa coins. Yet it is not even absolutely clear whether the human figure is a male. In any case, this seems to be the earliest representation of a standing figure before a bull on an Indian coin. The specimen was found in Level 29 at a safe spot and is to be dated into the second half of the 2nd century B.C.

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[1] Indian Archaeology—A Review, 1956-57, p. 17, pl. XVIII.

[2] Catalogue of the Coins of Ancient India. London, 1936 pp. CXXXVIII f. and p. 237 f

From the later Śuṅga period, or rather from the Sūryamitra Level 27 in Sonkh, comes a small *terracotta hand* (fig. 27). It is only 3,1 x 2,3 cm large and realistically shaped as a palm, the back of which was left unfinished. A perforation channel runs from the side of the thumb to the side of the little finger, indicating that this piece was carried on a string, perhaps as an amulet. The design looks Tantric. The finger-joints are separated by pearl rings. Three symbols are marked on the palm: on the right a Svastika turning leftwards, in the centre a Nandyāvarta symbol and on the left a sign which is known as Indra-dhvaja. The latter closely resembles the symbol towards which the lion on the afore-mentioned oblong coin turns his head. Judging from the place of discovery, this piece is to be dated in the beginning of the first century B.C.

Furthermore, a large number of *votive-tanks*, more or less fragmentary, was found at Sonkh. They were used in the time from approximately 100 B.C. down to the middle ages. Three of the find-objects specially deserve to be presented here.

A rather uncommon piece is a *votive-tank* in the form of a narrow yard with four houses clustering around it (fig. 28). Three of the houses are fully preserved. They have domed roofs with three peaks each which correspond to the pinnacles on the stable structures. The houses are joined in a right angle and encircle a small courtyard. Their outer walls merge together with the wall of the vessel. The yard has only one entrance which leads through a passage into the court from where the other houses can be entered. Originally, the vessel rested on supports as indicated by some markings at its base. The remains of a step in front of the outer entrance show that a staircase led up to it. A tree seems to have grown beside the entrance; traces of its crown are still visible on the roof. Although the features characteristic of a tank can only be made out at its corners and by its fractured edges, the use of this terracotta object as a votive-tank cannot be doubted. To believe it to be a toy would be wrong in any case. The object was found in Level 26 and is to be dated in the middle of the first century B.C. As houses of this period are not preserved in the original, this small, three-dimensional specimen enriches our knowledge of the architecture of that time. So far we had to rely solely on buildings as depicted in reliefs.

Votive-tank No. 2 (fig. 29) represents a vessel filled with water. Small clay-lamps (pradīpa) were put in regular intervals on the walls and in between them a bird was placed. Aquatic animals like snake, fish and frog can be seen on the bottom of the vessel. A strong stalk-like pillar bears a lotus-rosette in full bloom, which is to be imagined as floating on water. A platform rests on four thick columns as well as on one side of the wall. A ladder leads down to the bottom of the vessel. An oval temple, now roofless, stands on the platform. This vessel was used for the pūjā in a private house. Shaped as a water-tank and with a ladder leading from the ground to the platform, our belief that here a water-god was worshipped may be justified. It is even possible that this vessel was used for a Nāga ritual.

Rather fragmentary but highly interesting is the *votive-tank No.* 3 (fig. 30), preserved in the remains of four female figures sitting on the bottom of the vessel and carrying a bowl in their laps. The artistic quality of the figures is quite low. The faces, above all, with their crudely fixed eyes and noses convey a rather primitive impression. The significance of the piece lies in the assemblage of the figures. As between the third and the fourth figure from the left the remains of a fifth figure are preserved and one may assume that there were two more women seated on the missing opposite side, this votive-tank contained altogether seven female figures. If the fourth side was occupied by another figure, the total number would be eight. No doubt, this is a *Mātrikā* group; the object, therefore, must have been a sāptamatrikā- or aṣṭamātrikā-tank. It is not only the assumed number of figures but also the fact that probably all of them had a child in their arms which convinces us that the females represent Mātrikās. A part of the pūjā must have consisted in placing food in each bowl of the goddesses. This representation reminds us involuntarily of the late-vedic food offerings to the gods. The votive-tank comes from Level 23 and is to be dated in the last quarter of the first century B.C.

The stylistic features of the Mātrikā figures conform to a basic type of mother-goddess as found in several specimens in Level 23. They are solid, single terracottas of *sitting Mātrikās* with a child in the left arm (fig. 31). The head shows all the characteristics of this type: the face with the receding cheeks, the distinctly small mouth, the commanding and big nose, the narrow forehead, the stamped eyes, the prominent ears and simple ear discs. A ribbon is laid around the root of the hair and joins behind the head at the neck. This is an exclusive object of Levels 24 and 23 at Sonkh and is to be dated in the decades shortly before or after the advent of the Christian era. However, the style of these figures does not seem to fit into the regular development of terracotta art in India. It may have been created by a tribe which immigrated to that part of the the country.

As explained in Chapter 4, quite a number of coins of different Kṣatrapas were found in the houses of Levels 24 and 23. Another informative object of a heterogeneous culture is a *seal*, stamped into a lump of clay and bearing two lines of script (fig. 32). At the lower margin of the impression, a line in Kuṣāṇa Brāhmī characters is clearly preserved. The reading runs: anaṅgabalasa; it is, therefore, the seal of a person named Anaṅgabala which is also an epithet of the god Kāma. The second line of the script is to be found at the upper margin. It is not so well-preserved, but legible all the same. The script is Kharoṣṭhī which runs from the right to the left. The reading is the same, viz. Anaṅgabalasa. Thus the seal's inscription proves to be bilingual. The piece is contemporary with the Mātrikā figure mentioned before.

Above the Kṣatrapa-Levels 24 and 23 the Kuṣāṇa habitations start with Level 22, reaching up to Level 16. A large variety of objects was found in them, but only a few remarkable pieces can be presented here:

A small lump of clay of metallic heaviness contained a rather crusty *figurative bronze* of 10, 6 cm height and 8,5 cm width (fig. 33). The object is flatly cast and in three respects of great significance: it is the first Kuṣāṇa bronze known to us from Mathurā and of high iconographical interest. To our knowledge, it is the oldest Hindustic bronze so far found in India. Two figures standing side by side on a metal pedestral are recognizable; they are surrounded by a decorative frame. This frame is apparently made up of columns and an architrave. The figures, connected with one another as well as with the frame by small bars, are those of a man and a woman, the male figure being much taller than the female. The woman has an animal head with large, round eyes and ears; there is a damaged spot near the mouth. Her right arm is bent and holds the hand with its palm up. She is carrying a child in her left arm. This female figure represents most probably an animal-headed mother-goddess. The man is also two-armed. He raises his right arm and holds the hand up with its palm turned inside. In the left suspended hand, he carries a bowl. He is dressed in a dhotī, the knotted end of which is visible in folds between the legs. A broad, ornamental ring encircles his neck, beneath which a tie can be recognized. His hair appears to be piled up high (jaṭā mukuta) and is decorated with a diadem. He may have been intentionally depicted with only one ear-ring (ekakuṇḍala), but it is also possible that the right ear's ornament has broken off. The bronze is not yet iconographically identified. One can, for example, think of Skanda and his connection with the Mothers, but this is purely hypothetical. The male figure in its statuesque posture can be identified, also stylistically, as a product of the Kuṣāṇa period. The findspot in House C of Level 16 leads us to assume that the bronze, specially if it was used for pūjā, might have been handed down from generation to generation. That a bronze of this type and technique existed in Sonkh in Kaniṣka's time is proved by a second figural find.

This is a flanking figure from Level 21, 9, 3 cm high and consisting of two fragments joined together (fig. 34). Like the first piece, it is a flatly cast bronze representing a male figure with a spear in his right hand. The facial features, headdress, clothing and posture of the body are clearly Kuṣāṇa style. The shaft of the spear forms the outer margin of the object which must have consisted at least of two, if not more figures. As in the case of the first bronze, this is clearly indicated by connecting pieces at its left side. The lower part of the body dressed in a dhotī is somewhat too long. The figure, armed with a spear, can well be God Skanda; however, it could also represent one of the two guardian figures which often flank one or more goddesses in the Kuṣāṇa reliefs. Both bronzes probably belong to the same time, i.e. about 100 A.D.

A *hollow plaque* (fig. 35), fragmentary but interesting in its composition, proves that the potters of those days did not produce pots only. The piece is moulded out of thin clay and could be worn on a string or chain as a pendant. On the rim beside the hanging device there is a small hole through which probably globules or pebbles were inserted for the object to serve as a rattle. The reverse side shows a lotus decoration. The obverse, however, has a group of figures, superbly shaped, with an iconography that requires to be explained. It depicts an ensemble of bodies consisting of one lower and four upper parts joined in an intruiging manner. Each figure performs a different movement. Thus, the whistling man in the upper part seems to be sitting, while the clapping figure on the left appears to float. The other two figures remain in dancing or singing postures. The representation of a whistling, clapping, singing and dancing man on the plaque is certainly in harmony with its function as a rattle. Even without being aware of its actual findspot in the Kaniṣka-level this piece, on account of stylistic peculiarities, would have to be placed in the Kuṣāṇa period.

The Kuṣāṇa level produced an abundance of *terracotta figures* of various divinities, predominently those of *Kubera* and *Durgā Mahiṣāsuramardinī*. Their style changes from highly artistic to simple folkart products More important are the iconographic features as they developed from the early to the late Kuṣāṇa time This pertains specially to the representations of Durgā as killer of the buffalo-demon Mahiṣa There is, for instance, no indication for the killing of Mahiṣa with the help if a triśūla in early Kuṣāṇa art. One rather wins the impression that she strangles the demonical beast. Under this aspect, the plaque illustrated in fig. 36 is of special interest. It hails from the late Kuṣāṇa Level 16, i.e. from the time of Vāsudeva I and depicts Durgā in her Mahiṣāsuramardinī aspect. While some features, i.e. the position of the buffalo and of the two lower arms are quite familiar to us from Kuṣāṇa pieces referred to earlier, the third and the fourth arm hold the triṣūla in an unusual position above the head, ready to strike it down into the body of Mahiṣa. With this posture the act of slaying the buffalo begins to be represented by means of a long triśūla shaft as it became common in the Gupta period.

The last of the remarkable objects selected for this article is a stone-relief found within the debris used as filling above Level 16 (fig. 37). It certainly did not belong to a building of the town's inner area, but was moved to the spot from an outside temple-place after the demolition of that sanctuary. The relief with an almost identical reverse side depicts the *mythical bird Garuḍa* above a curved lotus border. With wings spread out it stands upright and carries a threeheaded serpent in its beak. The body of the snake coils itself around the bird's neck and slides down behind its left wing. This sepentine line, along with leaf and blossom ornaments, produces a decorative pattern corresponding to the twiglike and raised tail of the Garuḍa on the reverse. Below the lotus border remains of winged animals can be seen. On comparing this object with similar pieces one may conclude that originally another curved border below the animals existed as a dividing line for a third scene adorning the relief. This two-sided relief is no doubt an architectural piece, probably a part of a tympanum. It proves that at Sonkh more than one Kuṣāṇa-temple decorated with stone-reliefs must have existed as this piece, on account of its style, cannot have belonged to the temple described in the following chapter of this paper.

As mentioned before, only a small selection of objects from Sonkh could be discussed here. They were by no means the most attractive pieces; the intention was rather to show that it is not the artistic quality alone which decides the importance of an archaeological find.

II

EXCAVATION OF APSIDAL TEMPLE NO. 2

During the digging on the large plateau of the hill of Sonkh we came, as already reported, upon a succession of eight Kuṣāṇa levels with the remnants of houses, streets and places which were grouped around a central brick-built temple. This apsidal temple—we may call it temple No. 1—is comparatively small, but was often renovated, reconstructed and enlarged. Apparently, the walls were only plastered and not artistically decorated. It, therefore, appeared all the more astonishing that in the filling debris of the upper Kuṣāṇa levels, i.e. from Huviṣka to Vāsudeva I, fragments of Kuṣāṇa stone-reliefs and stone-railings were found again and again. As it cannot be assumed that this filling debris and these fragments were brought here from very far, there must have existed some temples with stone railings in the near neighbourhood of the mound. In the course of time the originally larger area of the hill on the eastern, western and northern sides had been ploughed by the peasants. In the south, the wide-spread site of Sonkh extends on the spurs of the ancient mound. In the north, the area was bounded by a river. Could the temples have stood along its banks? This question would have remained unanswered, had there not been a small area of the old elevated ground left in the midst of the fields. An old stone-sculpture had once been accidentally found at this place, which the local people began to worship. A small building constructed around this sculpture made the ground a temple site. In this way, the surrounding area of about 2,500 sqm remained untouched within the fields. The sculpture is today worshipped as Cāmardevī, i.e. Camuṇḍā, by the women of the neighbouring villages.

The temple island, as we may call it, is situated 400 m northwards to the main field of excavation, quite close to the modern canal (see fig. 2, square 6 III-V/Cb-d.) In the spring of 1971, we laid a trial-trench on the southern side of the temple platform and came across a round structure of mud-bricks immediately below the surface. This result encouraged us to examine the site more accurately in the winter of 1971/72 and 1972/7[illegible]. Very soon it became evident that the area to the south of the platform contained the remains of a second apsidal temple. Its outline is preserved in the mud-brick foundations (fig. 38). The bricks have the size of 48 x 32 x 7 cm. The structure is laid out in east-west direction with the entrance on the eastern side. In the north east corner of the entrance several layers of terracotta bricks sized 38 x 23 x 6 cm rest on the foundations. Except the entrance side the temple was surrounded by pillars, only the brick foundations of which are preserved. The size of the bricks corresponds to that of the aforementioned terracotta bricks used in the super-structure. The apse once contained a hard, round mud-floor which formed a full circle with the wall. The whole structure had a platform as its base. Some measurements may demonstrate the size of the temple: the diameter of the apsidal fundament, 60 cm high and made of mud-bricks, amounts to 3,80 m. The apsidal temple is 7,30 m long and is to be considered a closed cell with access from the east. There is evidence of a 1,60 m wide gateway framed by masonary pillars about 1,10 m in width. Judging from the finds, the gateway was paved with stone-tiles bearing reliefs. Holes of 18 cm depth are found in the bases of several pillars for insertion of the shafts. The distance from the centre of each pillar to the exterior edge of the apsis wall is about 0.85 m and that between the individual pillars fluctuates from 1,20 to 1,40 m. The size of the platform carrying the temple building is 15 by 11,50 m. Older remains of structures seem to have been covered up at the time of the temple construction with an artificial slope.

In the days of morning dew, round spots were noticed on the sides of the pillars and before the entrance, which led us to infer the presence of a deeper and wider lay-out of pillars. It was, therefore, necessary to dig out the adjacent ground as well. When doing so, an older surrounding wall and a likewise older row of pillars appeared, enclosing even the entrance front (fig. 39). The terracotta bricks of this older wall (12 x 9,50 m) are of the same measurements as the mud-bricks of the apse. The foundation bricks of the pillar group underneath have the size of 42 x 29 x 7 cm. Remains of roof-tiles were found beside the wall. This demonstrates an astonishing conformity with the findings of Level 27 of the main excavation area. Terracotta bricks of both sizes (48 cm and 42 cm) and plenty of roof-tiles of the same shape were found there within the houses. In view of the architectural and historical development there is no doubt that this older phase of Apsidal Temple No. 2 is contemporary with Level 27. But Level 27 clearly belongs to the period of Sūryamitra who, according to the results of Sonkh, can safely be placed in the first half of the 1st century B.C.

Unfortunately, it cannot be ascertained to which cult the older sanctuary was dedicated. In the immediate surroundings not a single object in this level was found which could supply some evidence in this respect. However, the excavation of the older surrounding wall and the second group of pillars has made it clear that the foundations of the apsidal structure with its 48 cm long mud-bricks also belong to the older phase of the temple. Thus, the upper group of pillars and the super-structure with terracotta bricks sized 38 x 23 x 6 cm are to be considered parts of a second, i.e. younger apsidal temple. The size of the bricks corresponds to that of the early Kuṣāṇa levels in the main excavation area. Several coins of Wima Kadphises and Kaniṣka I were found in the temple-ground itself. A "sandwich" of coins baked together lay in one of the foundations of the upper pillars: these again are Wima and Kaniṣka coins. The dating of this phase in the early Kuṣāṇa period appears to be most plausible. Several other brick structures which supply us with a conception of the total plan were laid open in the level belonging to the upper temple-phase (fig. 40). Apparently, a courtyard extended in front of the temple-area. The structures to the north of the temple have the form of cells which were most probably grouped around a further inner court. As this is the very place on which the modern temple stands, there is no possibility to recover this part of the ground-plan. In the west and the north where, already in the old days, the ground was furrowed by pits and ditches, remains of walls were nevertheless preserved which could have belonged to an extensive and comprehensive basis-wall. But the structural design as outlined in the sketch does not allow any conclusion as to the religious use of the upper apsidal temple.

As luck would have it, numerous interesting finds conducive towards solving open questions were made in the same level of this area. Some objects excavated mainly in the eastern yard may be examined first. On the ground of the yard lay a pottery pinnacle with protuding foliated garlands around a hollow pipe (height: 40 cm). In the mud inside the cavity an iron bell with clapper was found. The same purpose as a pinnacle was most probably served by a similar, but green-glazed piece (height: 35 cm). of a more simple shape. Bigger fragments of such objects with the same typical glaze were unearthed in the filling debris of Kaniṣka Level 21 of the main excavation. Beside the pipe with the bell lay a 25 cm broad terracotta Nāga-hood with originally seven cobra heads. Scratched into the snakes' heads are some auspicious symbols like Svastika and Nandyāvarta. Presumably a human face representing a Nāga had originally been under the hood. It must have been similar to the hollow terracotta head of clear Kuṣāṇa style found near the north-eastern boundary wall of the apsidal temple. In the context of other finds this head may be taken for that of a Nāga (fig. 41). From the stone fragments found in the strip to the north of the outer courtyard two pieces may be mentioned. The first is a Nāginī with the right hand in 'abhaya' mudrā and a three-headed Nāga-hood. The second represents an interesting fragment of a relief with a reading Nāga (fig. 42). Contrary to the common depiction of the Nāgas this one has an animal upper body whereas the lower part is human. On its chest folds resembling a snake-skin are recognizable. Also visible is an earring adorning the right ear. The serpent holds a book in its right hand. Another non-figurative piece from among the finds of this group is noteworthy: it is an inscribed seal with remains of three rectangular labels each having two lines of Kuṣāṇa-Brāhmī script. The beginning of their upper lines is damaged and only the last akṣaras are clear and read: *putrasa*. The lower line contains the main name: *ahikośikasa* or *ahikauśikasa*. Without discussing the particulars of this inscription the snake-connotation of the same should be noted.

The accumulative representation of Nāgas among these finds is complemented by two other sculptures. One from a private house near the temple is a large tympanum fragment with reliefs on both sides which show a man climbing a rock. He is entwined by a snake. But he is not fighting the snake which is rather a part of him: he, in fact, is a Nāga. This piece is no doubt of Kuṣāṇa origin. The same is the case with the second sculpture, namely, the male statue around which the modern temple has been erected. The stone is carved on all four sides. On the obverse and reverse the figure is in 'abhaya' pose and hooded by a snake canopy with seven cobra-heads. On both the narrow side-portions we find a seven-limbed and seven-headed snake decorated with three lotus-stalks. The stone-figure represents no doubt a Nāga, not a Balarāma. By now, it has become quite evident that the upper phase of Apsidal Temple No. 2 at Sonkh was dedicated to the Nāga cult and that the four-sided Nāga sculp-

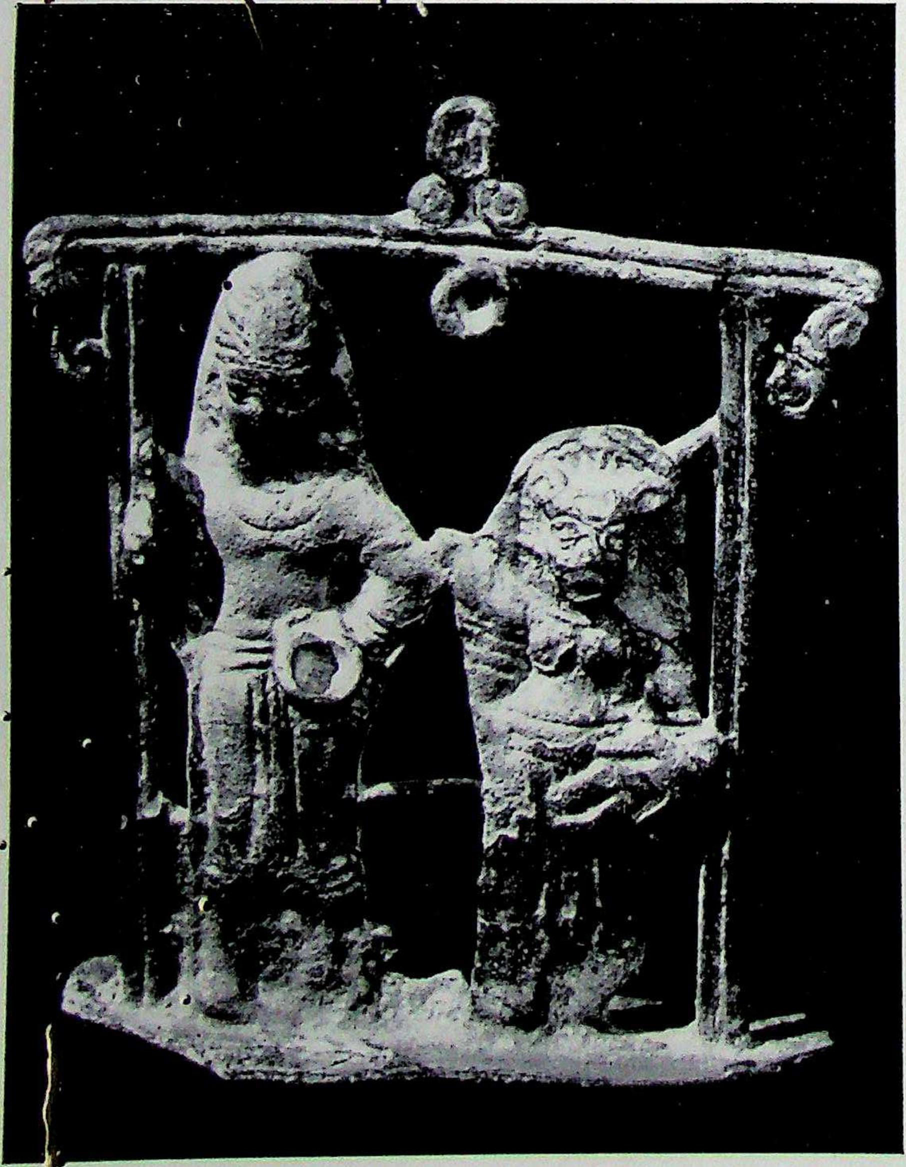

Fig. 33: Two-figured bronze from Kuṣāṇa level

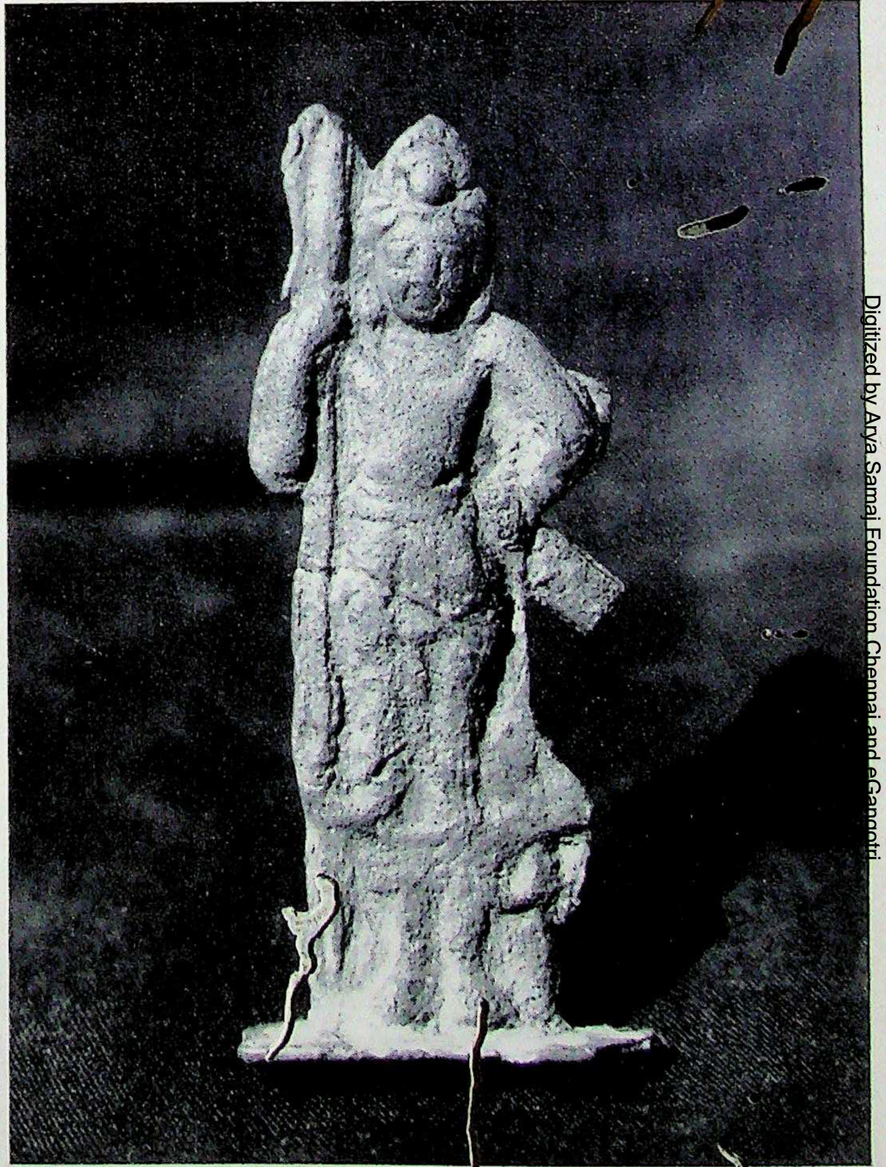

Fig. 34: Bronze figure of a male with spear (Skanda type)

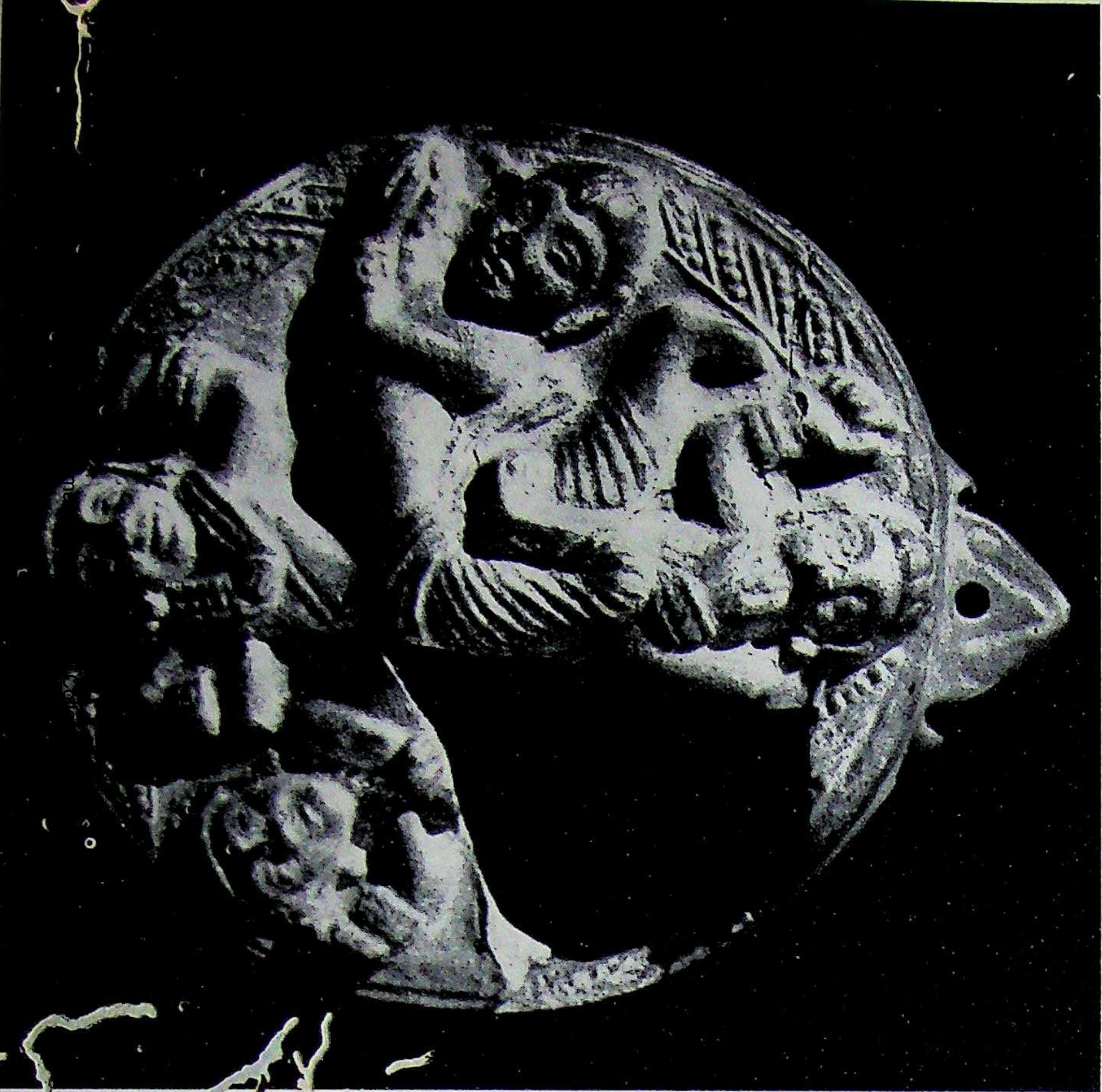

Fig. 35: Hollow plaque with the depiction of musicians. A rattle from Level 21

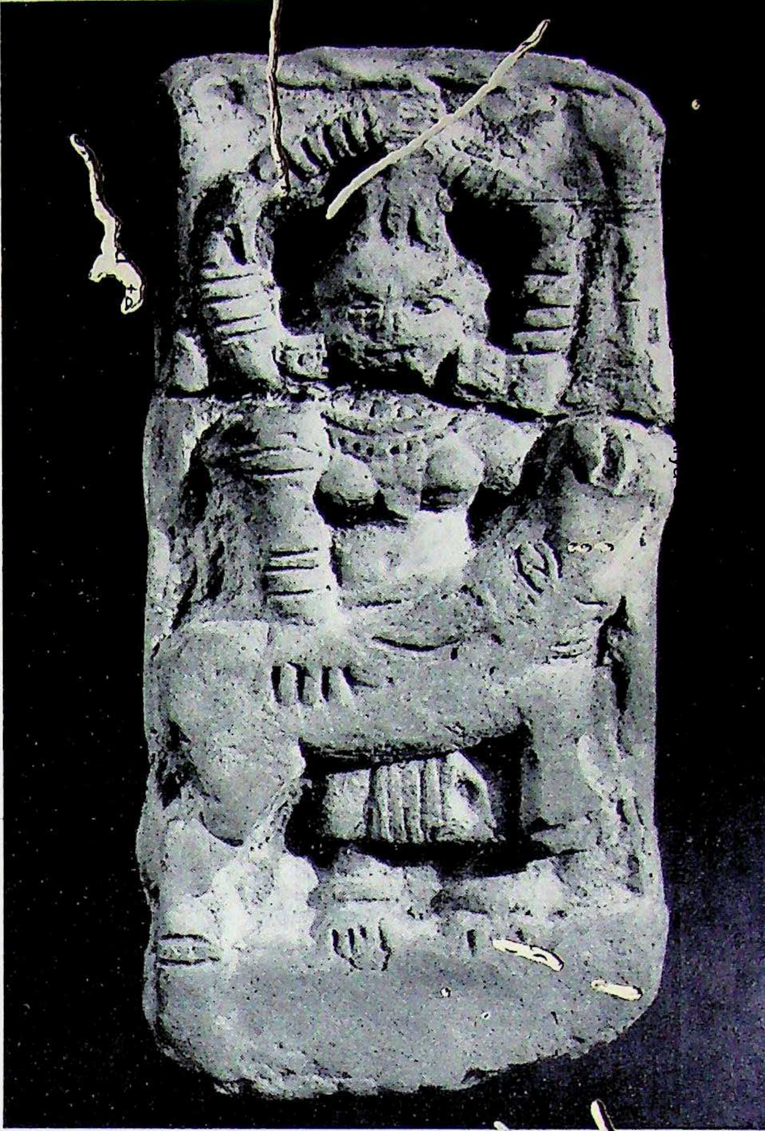

Fig. 36: Terracotta plaque of Durgā Mahiṣāsuramardinī. Level 16

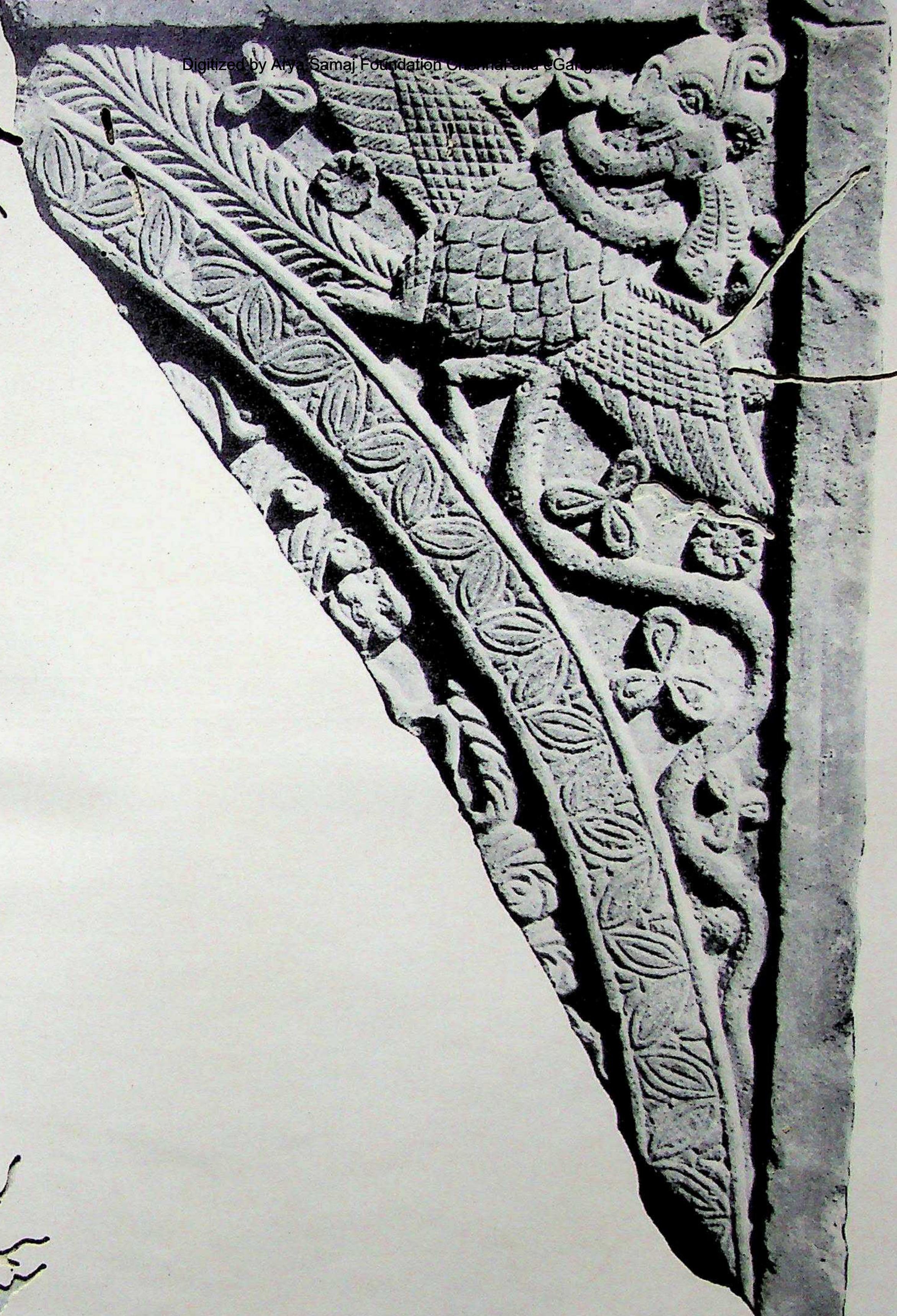

Fig. 37: Fragment of a tympanum with the representation of a Garuḍa with snake. Kuṣāna period.

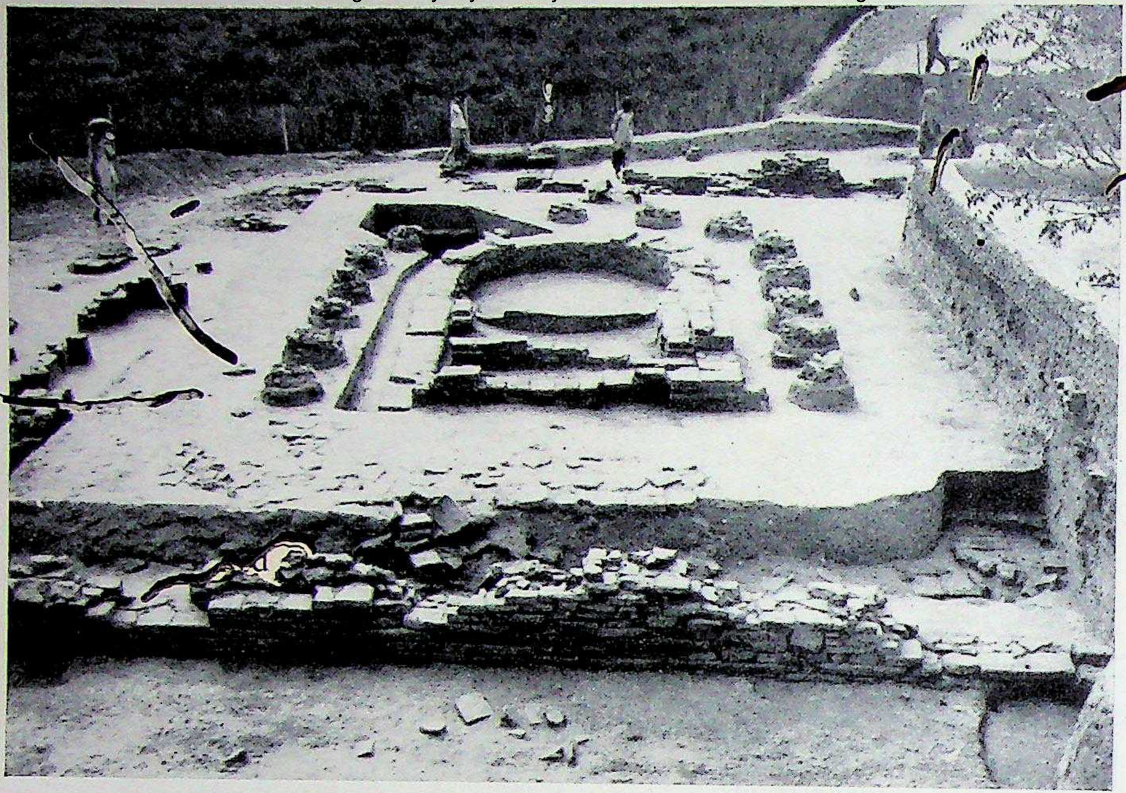

Fig. 38: Structural remains of the upper phase of Apsidal Temple No. 2 at Sonkh

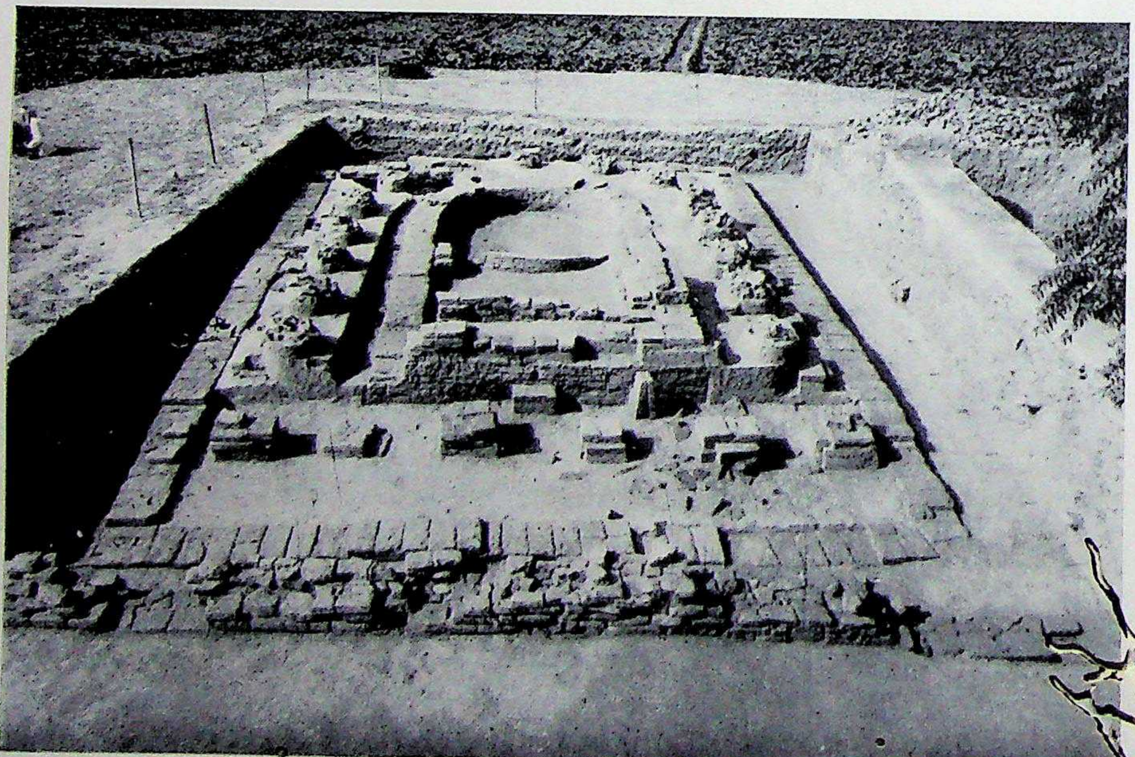

Fig. 39: Structural remains of the lower plus upper phase of Apsidal Temple No. 2 at Sonkh

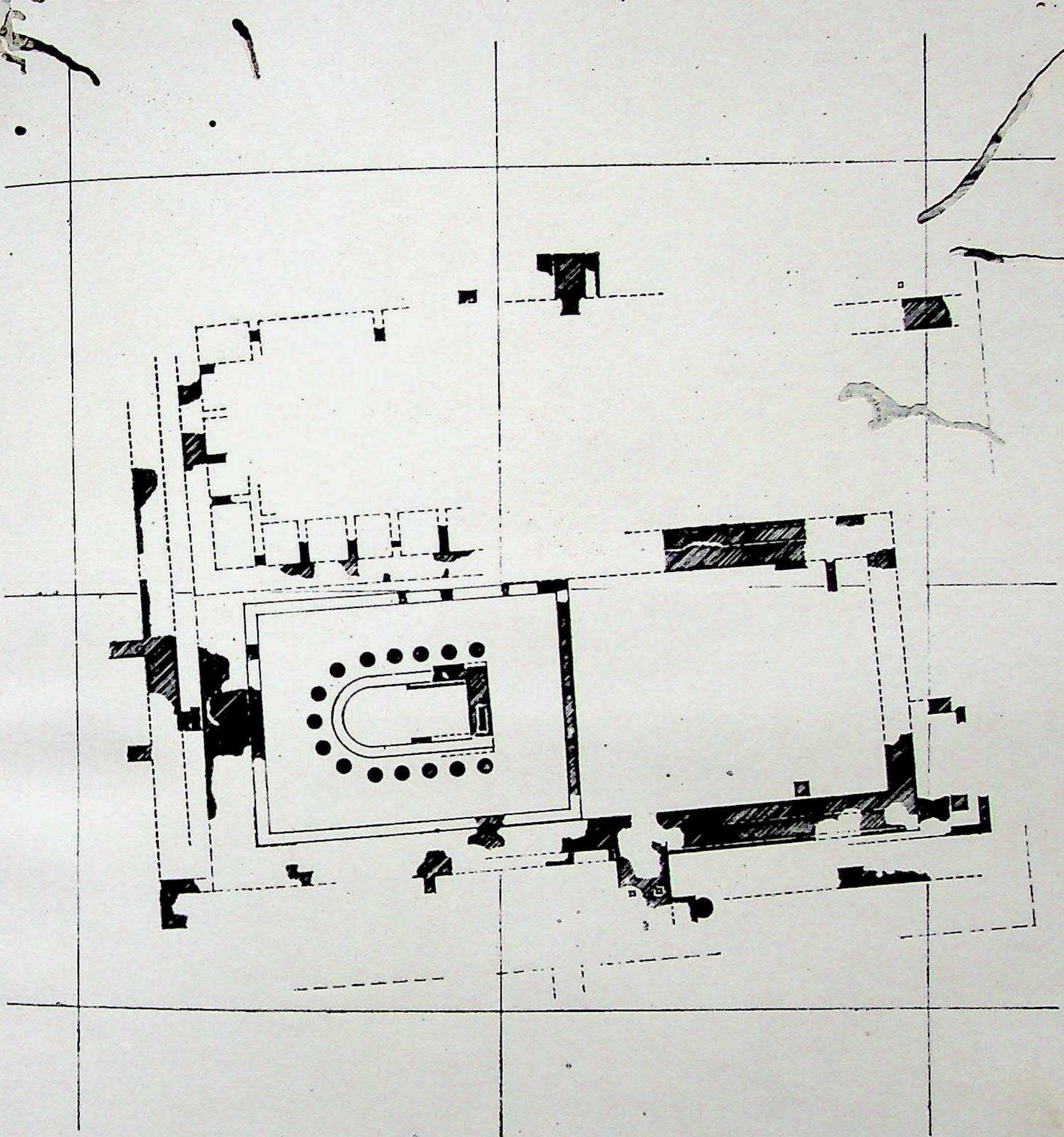

Fig. 40. Ground-plan of the upper phase structures of Apsidal Temple No. 2 at Sonkh

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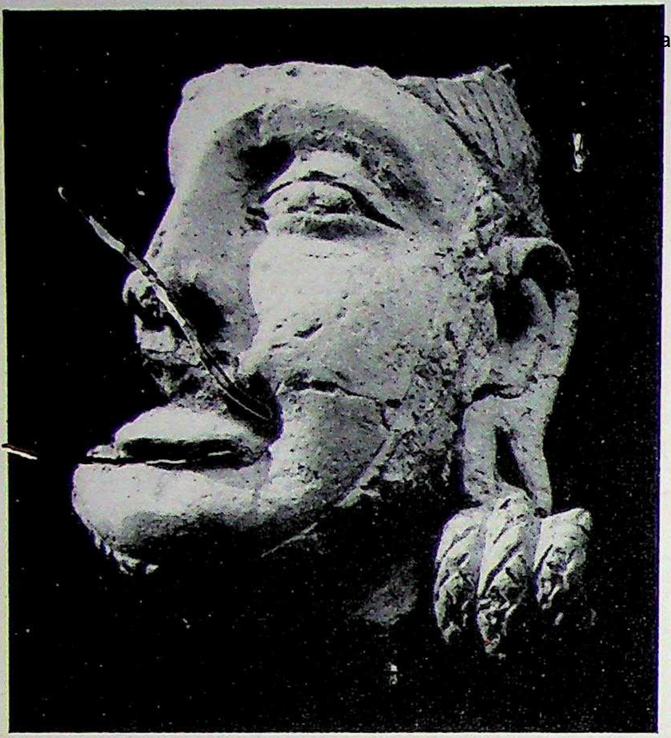

Fig. 41: Fragment of a hollow terracotta Nāga head. Upper phase; Kaniṣka period.

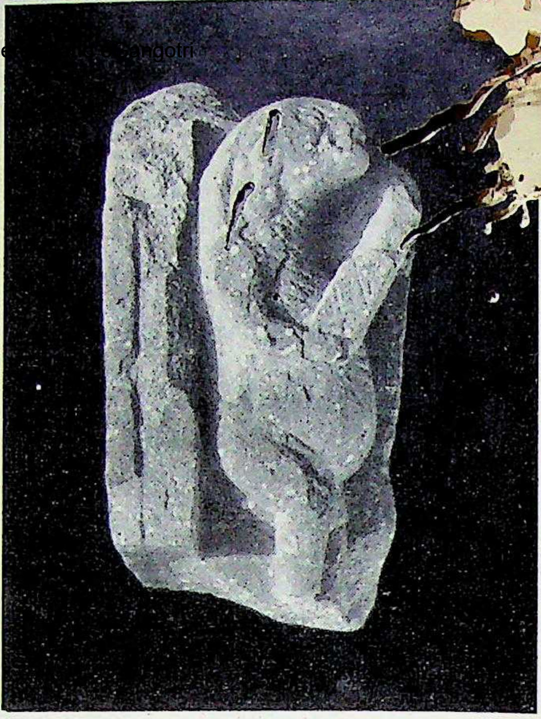

Fig. 42: Nāga with book. Fragment of stone relief, Mathurā sandstone. Upper phase; Kaniṣka period

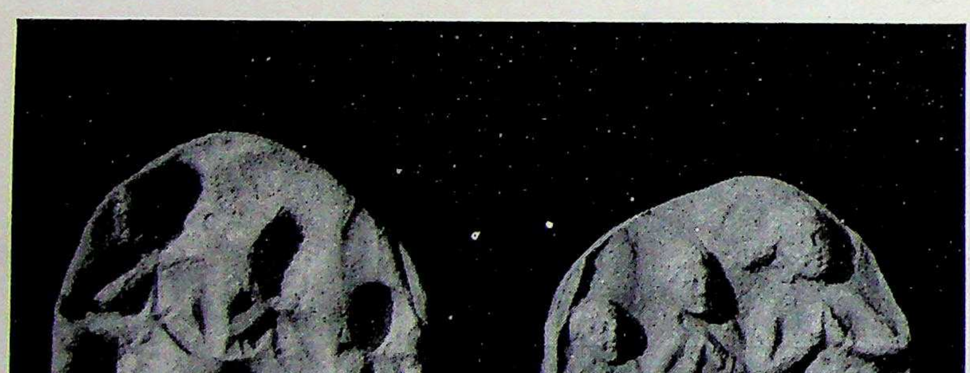

Fig. 45: Terracotta mould and its reproduction, taken from the group of children in the relief in fig. 44. Kaniṣka period

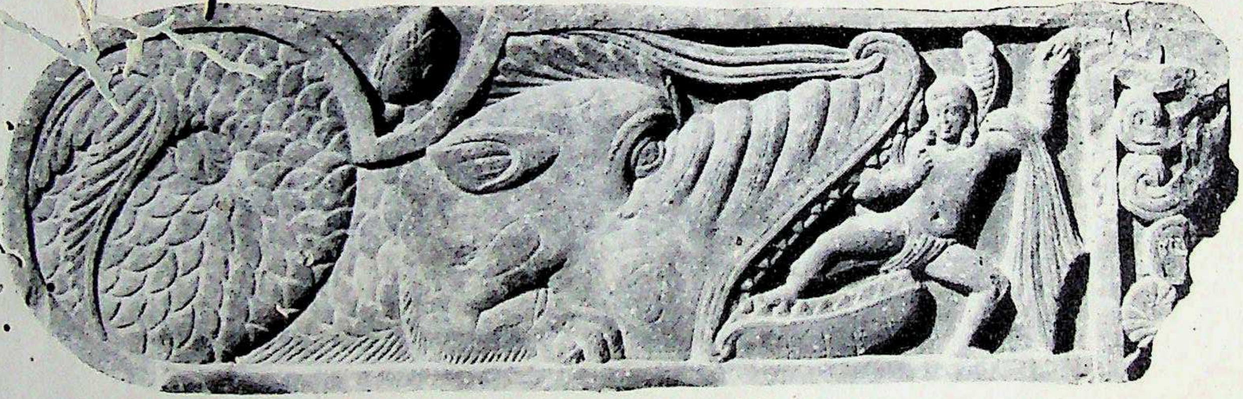

Fig. 43: Western end of bottom lintel of the southern gate. Makara with Nāga. Upper phase; Kaniṣka period

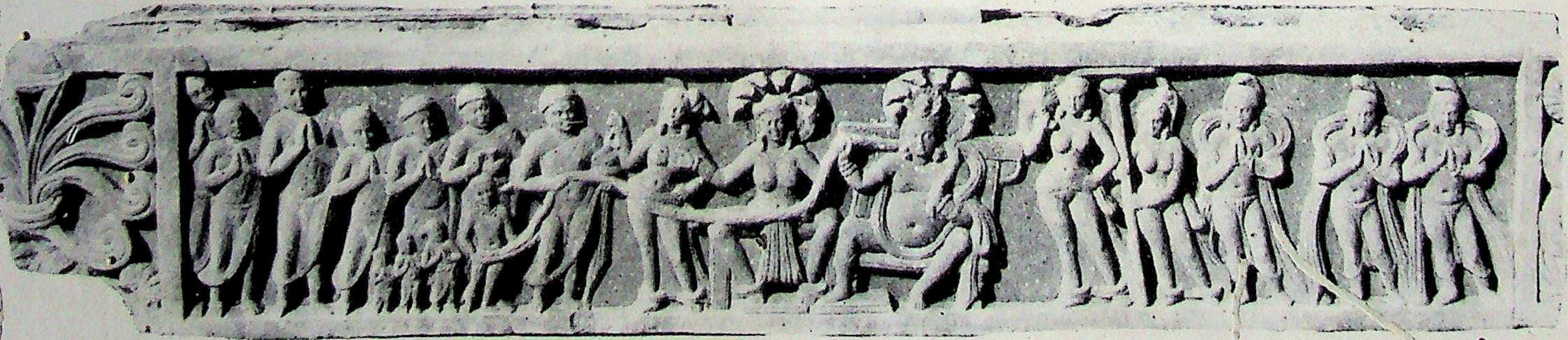

Fig. 44: Bottom lintel with Nāga panel. Mathurā sandstone. Upper phase; Kaniṣka period.

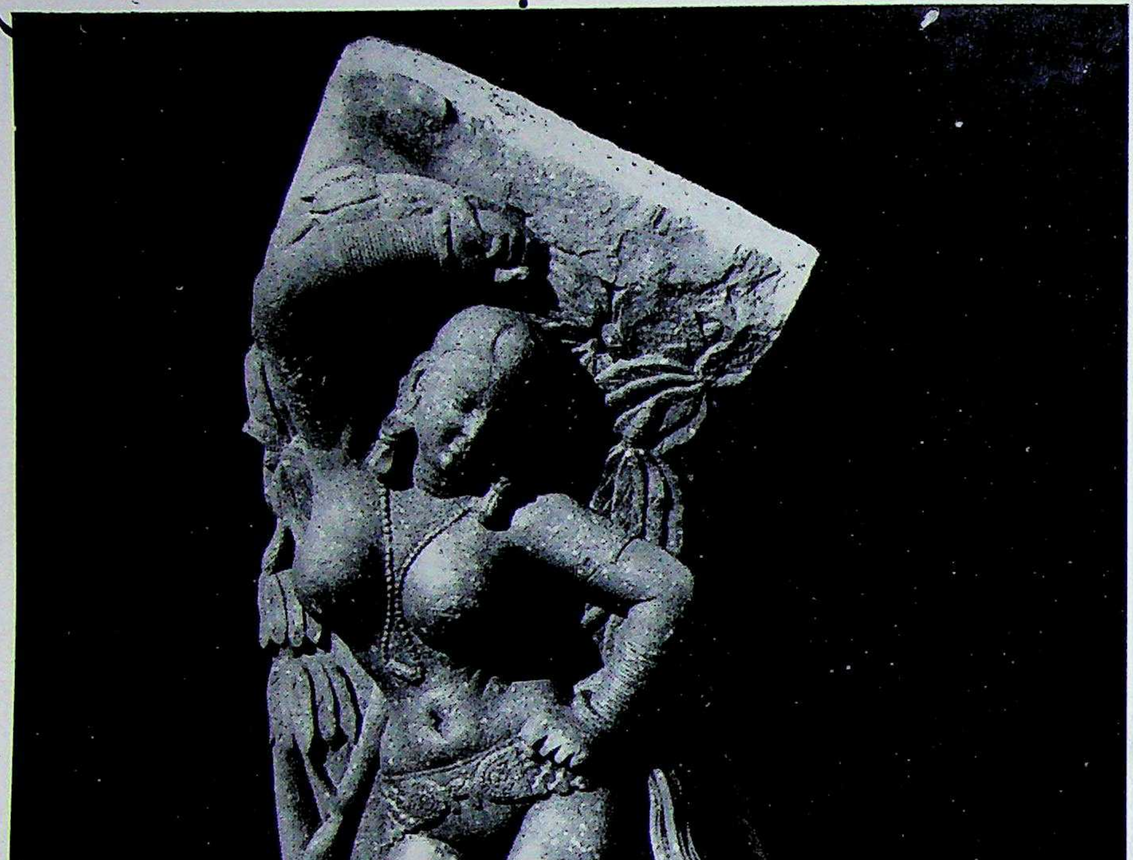

Fig. 46: Śālabhanjikā from the southern gate. Upper phase; Kaniṣka period

ture must have originally stood in its apse to be worshipped by performing pradakṣina. We may recall some of the Nāga inscriptions from Mathurā District, such as the one from Dadhikarṇa, telling us of a Nāga shrine, the architecture of which has never been a point for discussion, because we have no basic information about it.

While digging the surrounding area of the apsidal temple quite a number of more or less tiny fragments of Mathurā sandstone came to light. It was only in the southern strip that the finds were arranged in a certain order. And indeed, this is the place where we found the most important objects. Scattered in this southern area were small heaps of bricks and stones. Most of the stones were *sūcīs*, i.e. crossbars of a railing, carved on both sides with lotus rosettes. One of the sūcīs shows by its oblique shape that it belonged to a staircase-railing. Still more interesting is the fragment of a *stambha* with a medallion carved in the upper half of the pillar. It depicts the figure of a Nāga with a canopy of seven cobra-heads. The lower body of the Nāga consists of a snake's tail. The hand of its uplifted right arm carries a lotus-stalk. The Nāga motif is repeated in another *stambha* where, in the lower half-medallion, the heads of three cobras are visible.

More to the east of the southern strip of land another group of bigger stone pieces came to light. The finds of an architectural lion and two cubic blocks with marvellous carvings one of which showing, of course, the inevitable Nāga again, clearly indicate that they belong to a gate and were originally placed on and in between the architraves. Unfortunately, not much of that gate has survived. But the few pieces which we were able to find have been worth all our endeavours. There are three projecting ends of architraves and the middle beam of the bottom lintel. The pieces are carved on both sides, but those sides which — in the excavation spot — were showing upwards, are nearly completely weathered and defaced. Thus, only one side of the carvings is preserved, but that luckily is in mint condition.

Firstly, there is the western end of the top lintel depicting an elephant with a *makara* body who carries a lotus-stalk in his trunk. The next piece being the western end of the bottom lintel (fig. 43) shows a *makara* and in front of it a male Nāga with a snake-hood curling up behind his head. With his right leg he steps out of the jaws of the ogre. This piece fits exactly together with the most exciting relief from Sonkh, namely, the large middle beam of the bottom lintel which is significant for its artistic quality as well as for its content (fig. 44).

The panel shows in the centre of the scene a Nāgarājā and a Nāginī. To the right two female servants carry the royal emblems: a chowrie and an umbrella. Both are characterized as Nāginīs by a single snake-hood rising behind the head. The three male persons on the same side are likewise marked as Nāgas by similar snake-hoods. The last Nāga attendant in the scene is the girl standing beside the seated Nāginī; she holds a necklace, just handed over to her by her mistress with the intention to make it a present to the leader of a visiting group. The delegation consists of three adult Brāhmaṇas, four young men (ascetics or disciples) and four children. The tallest child delivers a long garland, which is just being accepted by the king. At the moment, it is too early to offer a convincing interpretation of the scene. But one observation should be added: normally, a Nāga queen is placed to the left of the king and has two cobras less in her canopy than the ruler. Here, the Nāginī shows the same number of snake heads in her canopy, and she sits to the right of the Nāgarājā. Since she also behaves like the commanding person in the scene, she may not be his queen at all. The relevant literature seems to offer only one name fitting the situation of a female Nāga with the powers of a king: Jaratkārū, the sister of the Nāga King Vāsukī. However, the final interpretation will have to be worked out later.

In this connection I wish to acquaint the reader with an extraordinary fact: from the mould shown in figure 45 it can be proved that the potter of the time when the gate was erected used to take moulds directly from the stone reliefs. Here we see the group of children from the Nāga relief. Another piece of terracotta find shows that those moulds have actually been used for the production of small plaques.

The last piece from the gate of Apsidal Temple No. 2 at Sonkh showed in situ the same mutilation as the others with dim outlines of the original sculpture. The relief, however, revealed a reverse in perfect condition with a *Sālabhañjikā* of the highest artistic quality, surpassing all Mathura Kuṣāṇa Yakṣīs known so far (fig. 46). The lady stands on a dwarf-like figure, whose facial expression is one of utmost joy. This female figure does not indicate any connection with Nāgas, except for her anklets which have the shape of a snake with a seven-headed canopy.

The Śālabhañjikā is the last of the remaining pieces from the southern gate at Sonkh and there is no hope for more. The excavation of the upper structure of Apsidal Temple No. 2 is completed. However, the results, though not presented here in all details, are sufficiently clear: the apsidal temple was dedicated to the Nāga cult, and it was partly or fully enclosed by a stone-railing with a highly artistic gate.

MĀRTĀṆḌA AND GAYŌMART*

BY

KARL HOFFMANN (Erlangen)

In his commentary to the difficult Ṛgvedic strophe II 38,8 Sāyaṇa (14th century A.D.) attributes the meaning 'bird' to the word mārtāṇḍa-. His interpretation has been followed by nearly all modern interpreters of the Ṛgveda, and doubt has been seldom expressed and then only hesitatingly: Ludwig (1876, I: 146 "the embryo in the uterus?"), Oldenberg (1909: 221 "mammal?") Renou (JAs 231, 1939:332, [1966:19, corrected 1967:143]). But critical reflexion shows Sāyaṇa's interpretation to be rather improbable, as *mārtāṇḍá-* is explained by *mṛtād bhinnād aṇḍāt padyamānaḥ pakṣī* 'coming from a dead, i.e. broken egg: bird'. But *mṛtá-* always means simply 'dead', and does not mean 'split, broken'. Therefore the meaning 'bird' is impossible on physiological grounds, as the knowledge that a living bird cannot come from a 'dead' egg is to be conceded also to the Indian of Vedic times. Böhtlingk-Roth (1855-75, V:880) wanted to obviate this difficulty by giving the following explanation of the form **mṛtāṇḍa*, inferred from the vṛddhi-derivative *mārtāṇḍá-*: "an (apparently) dead, lifeless egg (in opposition to living eggs, i.e. the testicles of animals); thence *mārtāṇḍa* 'bird' (developed from such an egg)". Though the metaphoric use of *āṇḍá*-in the sense of 'testicle' is well attested, it is greatly to be doubted, whether the egg of a bird—and a fertile egg at that, for otherwise a bird could not develop from it—could be called 'dead'. It may be stated that only the suggestive force of *āṇḍa-* 'egg', the second part of the compound, and the meaning 'bird', which in RV II 38,8 seems to fit the passage, led to these attempts of explaining the word *mārtāṇḍá-*.

In the strophes RV X 72,8.9 too, *mārtāṇḍá-*, when not regarded as a proper name[1], has been translated by 'bird'[2] and explained as

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* German version published in MSS 11, 1957: 85—103. English translation by Michael Witzel, M.A. (Erlangen) and Patrick H. Hollifield (Harvard University).

[1] Ludwig (1876, II: 577); Hillebrandt (1913: 129); Scherman (1887: 31); Muir (1873: 13).

[2] Grassmann (1873: 1036); Deussen (1920: 146); Caland (KZ 30, 1890: 537); Ehni (1890: 215; 1896: 104 f.); Schroeder (WZKM 23, 1909: 4); Charpentier (1920: 388).

'sun'[1] The meaning 'sun' or 'sun-god' is well attested for the epic form *mārtāṇḍa-*[2] Though the designation of the sun as 'bird' (*pataṅgá-*, *suparṇá-*) is common in the RV, the development 'bird, bird in the sky, sun'—as supposed by BÖHTLINGK-ROTH (1855-75, V:747) and others—must be regarded as quite doubtful because of the above mentioned insecurity of the original meaning 'bird'. Actually Sāyaṇa, too, comments here by ignoring the meaning 'bird': *mṛtād vyṛddhād aṇḍāj jātaṃ mārtāṇḍanāmānaṃ sūryam* 'born from a dead, i.e. miscarried egg: the sun-god, called Mārtāṇḍa'.

RV X 72,8.9 reads as follows:

aṣṭáu putrā́so áditer ye jātā́s tanvàs pári
devā́ṃ úpa práit saptábhiḥ párā mārtāṇḍám āsyat
saptā́bhiḥ putráir ā́ditir úpa práit pūrvyáṃ yugám
prajā́yai mṛtyáve tvat púnar mārtāṇḍám ā́bharat

'There are eight sons of Aditi, born from her body. She went to the gods with only seven; she laid aside *mārtāṇḍá-*'

'With seven sons only, Aditi went to the primordial generation[3] She brought back *mārtāṇḍá-* for offspring, but also for death.'

Pāda 9 c *prajā́yai mṛtyáve tvat* is particularly difficult. I cannot agree with OLDENBERG's opinion (1912:275), that *tvat* points to the opposition of the mortal world and the above mentioned world of the gods. Rather *prajā́yai* and *mṛtyáve* stand in opposition to each other. Indeed *tvat* is repeated otherwise in the meaning 'now-now' (RV VIII 101,3 *starī́r u tvad bhā́vati sū́ta u tvad*, and often in Vedic prose, cf. DELBRÜCK, 1888:27 f.); but a single *tvat* occuring only after the second part of the syntagma is attested in the same function in Avestan: *kə yā mā̊ uxšiieitī nərəsaitī θβat* 'who is it through whom the moon (now) waxes, now wanes?' Y 44.3. But the translation with 'now-now' is not absolutely necessary: the single *θβat* can also bear the meaning 'but also'. OLDENBERG (1912:275 f.) has pointed out that in the strophe cited above (RV X 72,9) the peculiar diction of the poet of the preceding hymn, RV X 71, who constantly uses *tva-*, is easily recognized. In fact GELDNER (1951, III: 249 f.) translated *tva-* - *tva-* by 'the one—the other' in strophes X 71,7.8.9. On the basis of the adversative nuance, the translation of *tvat* by 'on the other hand; but also' is justified.

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[1] GELDNER (1951, III : 251, annotation): "Mārtāṇḍa, the bird, is the sun.."

[2] According to WACKERNAGEL (KZ 59, 1932: 23) the shortening of the second *-ā-* is due to middle Indian influence. This form is already to be found in PB XXIV 12,6—in an also in other respects corrupted quotation of RV X 72,8; cf. CALAND (1931: 615). On the other hand, *-ā-* is very seldom in post-Vedic times: Rājataraṅginī VIII 3382, 3389; HERTEL (ZDMG 61, 1907:69; from a southern textus amplior of the Pañcatantra).

[3] of the gods; cf. strophe 2: *devā́nām pūrvye yuge.*

Insight into the idea underlying the Ṛgvedic strophes is furnished by a legend which has been handed down in the Yajurveda in several versions. I append the texts and translations for the sake of convenience:

1) MS 1 6, 12 : 104, 10 ff.

áditir vái prajā́kāmaudanám apacat. sóñśiṣṭam āśnāt. tásyā dhātā́ cāryamā́ cājāyetāṃ. sā́param apacat. sóñśiṣṭam āśnāt. tásyā mitráś ca váruṇaś cājāyetāṃ. sā́param apacat. sóñśiṣṭam āśnāt. tásyā áṃśaś ca bhágaś cājāyetāṃ. sā́param apacat. sáikṣatóñśiṣṭaṃ me 'śnatyā́ dváu-dvau jā́yete[1]. *itó nūnáṃ me śréyaḥ syād yát purástād aśnīyā́m íti. sā́ purástād aśitvópāharat. tā́ antár evá gárbhaḥ sántā avadatām: āvám idáṃ bhaviṣyāvo yád ādityā́ íti. táyor ādityā́ nirhantā́ram aichaṃs. tā́ áṃśaś ca bhágaś ca nírahatāṃ. tásmād etáu yajñé ná*[2] *yajante. 'ṃśaprāsó 'ṃśasya bhāgadhéyaṃ. jánaṃ bhágo 'gachat. tásmād āhur: jáno gantavyàs. tátra bhágena sáṃgachatā iti. sá vā́ índra ūrdhvá evá prāṇám anūdáśrayata*[3]. *mṛtám ítaram āṇḍám ávāpadyata. sá vā́vá mārtāṇḍó yásyemémanuṣyā̀ḥ prajā́. sā́ vā́ áditir ādityā́n úpādhāvad. ástv evá ma idám. mā́ ma idáṃ moghé párāpaptad íti. tè 'bruvann: áthaiṣò 'smā́kam evá bravātai. ná nó 'timanyātā íti. sá vā́vá vívasvān ādityó yásya mánuś ca vaivasvató yamáś ca. mánur evā́smiṃl loké yamò 'múṣmin.*

'Aditi, desiring offspring, cooked a rice pap. She ate what was left over[4]. Dhātar and Aryaman were born to her. She cooked another one. She ate what was left over. Mitra and Varuṇa were born to her. She ate what was left over. Aṃśa and Bhaga were born to her. She cooked another one. She considered: "By eating what is left over, each time two (sons) are born. Now I would get something even better if I ate of it beforehand." Having eaten (of it) beforehand, she served it. While the two (sons conceived by her) still were within (her womb), as foetus, they said: "We shall attain the rule in this world which the Ādityas have." The Ādityas searched for someone who was to knock them out (of the womb). Aṃśa and Bhaga knocked them out (of the womb)[1]. Therefore one does not sacrifice to them at the sacrifice[2]. The stake (*aṃśa-prāśá-*)[3] is the share of Aṃśa. Bhaga went abroad[4]. Therefore they say: "One has to go abroad; there one meets good luck (*bhága-*)." Indra rose upright in accordance with his vital breath[5], the other[6] egg fell down dead[7]. This indeed was the Mārtāṇḍa whose offspring are men here (on earth). Aditi hurried to the Ādityas seeking help, (saying): "This (egg) of mine shall exist. This (egg) of mine shall not perish in vain." They said: "Then he shall call himself one of us; he shall not think himself superior to us." This indeed was Vivasvant, the son of Aditi, from whom are descended Manu Vaivasvata and Yama: Manu in this world, Yama in yonder world.'

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[1] The accent seems to be wrong here.

[2] SCHROEDER (1881: 104) reads: *yajñéna* [SATAVALEKAR's edition has *yajñéná* (written together as one word)].

[3] SCHROEDER: *prāṇámaṃ udáśrayata* [SATAVALEKAR: *prāṇámanudáśrayata*].

[4] i.e. after she had served the pap to the gods.

2) KS XI 6 : 151,5 ff.

áditir vái prajā́kamaudanám apacat. tásyócchiṣṭam āśnāt. sā́ gárbham adhatta. táta ādityā́-ajāyanta. sā́manyatetó me a śréyāṃso 'janiṣyanta yát purástād ā́śiṣyam íti. sā́param apacat. tásyobhayáta āśnāt purástāc copáriṣṭāc ca. sā́ gárbham adhatta. só 'ntár evá gárbho 'vadat. ta ādityā́

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1. As for *nír-han* 'to perform an abortion' cf. for instance ŚB IX 5, 1, 62 *yó nv èvá manuṣáṃ gárbham nirhánti táṃ nv èvá páricakṣate* 'who performs abortion of a human foetus is despised'.
2. The conjecture *yajñé ná* is not only necessary because Aṃśa and Bhaga actually are insignificant in Vedic sacrifices (cf. for instance HILLEBRANDT, 1929:81 ff., 86 f.) but also because of the context.
3. *aṃśaprāsá-* hardly means 'the throw of *aṃśa-*' (SCHMIDT, 1924-28: 1) as it cannot be separated from *aṃśam pra-as* 'to bet' PB XIV 3,13; XXV13,3. The original meaning presumably was 'to cast a stake (into the game)' (*áṃśa-* 'stake' perhaps in RV V 86,5). Cf. CALAND'S annotation (1931:546 f.) to his translation of *amśān ā-hṛ* 'to draw lots'. This usage of *prá-as* confirms the reconstruction of *pāśaka-* 'dice, lot-stick' from *prāsaka-* (Hemacandra, Bower-Manuscript: by way of middle Indian *pāsaka-*) proposed by LÜDERS (1940: 120).
4. *jánam i* (*gam*) 'to go among people, to go abroad' e.g. in MS I 4,9: 57,3.4; III 8,10 : 111,12; SB XIV 4,1,11 (=BĀUI 3,11); JB II 135; 183; III 93.
5. Cf. the excursus at the end of this paper.
6. For the pleonastic use of *ítara-* cf. MINARD (1949:167, (§) 464 a).
7. The quotation of Durga's commentary to Nirukta IV 26: *mṛtaṃ itaram aṇḍam avāpadyata tasminn ādityaḥ saptama Indro 'ṣṭama iti ha vijñāyate* comes from MS or a similar Brāhmaṇa-text. All editions of the Nirukta compared by me have the impossible reading *mṛtapitaram*, which is also quoted by SIEG (1902:14).

amanyantāyáṃ ca vái janiṣyáte sá evédáṃ bhaviṣyatī́ti. táṃ nī́raghnan. sá nī́rasto 'śayat. sā́ tṛtī́yam apacad ādityébhya evā́stv evá sá yás tásmād yóner ábhūd yásmād yūyám asṛjyadhvam ī́ti. táṃ sámaskurvaṃs. tásya yán mṛtám ā́sīt tád ápākṛntan. sá hasty àbhavad. yáj jīváṃ sá vivásvāṃ ā́dityás. sá ná táthāsīd yáthā téna bhavitavyàm. sá etám ādityébhyo bhúvadvadbhyaś carúṃ nī́ravapat. svó vái svā́ya nāthitā́ya suhṛdayátamaṣ. svā́n evópādhāvat. táto vái sò 'bhavad. ādityā́ imā́ḥ prajā́ḥ.

'Aditi, desiring offspring, cooked a rice pap. She ate what was left over. She conceived a foetus. Then the Ādityas were born. She thought: "Even more excellent ones would have been born to me if I had eaten of it beforehand." She cooked another one. From this (pap) she ate both times, beforehand and afterwards. She conceived a foetus. Still within (the womb) the foetus spoke. The Ādityas thought: "If[1] this (foetus) will be born, he will attain the rule in this world." They knocked him out. Thrown out[2] he lay there. She cooked a third one, only for the Ādityas. "The one having come into existence from the same womb from which you have been released shall exist" (she said). They shaped him. What was dead of him they cut off. This became the elephant. What was living, that was Vivasvant, the son of Aditi. He was not the way he should have been. He sacrificed a rice bowl to the Bhuvadvant Ādityas. A relative is the most friendly (person) to a relative making supplication. Pleading for help he hurried to his relatives. Thus he prospered. These beings are descended from Aditi.'

3) TS VI 5,6

áditiḥ putrákāmā sā́dhyébhyo devébhyo brahmaudanám apacat. tásyā ucchéṣaṇam adaduṣ. tát prā́ńśāt, sā́ réto 'dhatta. tásyai catvā́ra ādityā ajāyanta. sā́ dvitī́yam apacat. sā́manyatoccheṣaṇān ma imè 'jñata yád ágre prāśiṣyāmītó me vasīyāṃso janiṣyanta ī́ti. sā́ réto 'dhatta. tásyai vyṛddham āṇḍám ajāyata. sā́dityébhya evá tṛtī́yam apacad bhógāya ma idáṃ śrāntám astv ī́ti. tè 'bruvan: váraṃ vṛṇāmahai. yó 'to jā́yātā asmākaṃ sá éko 'sad yò 'sya prajā́yām ṛdhyātā asmā́kaṃ bhógāya bhavād ī́ti. táto vī́vasvān ādityò 'jāyata, tásya vā́ iyáṃ prajā́ yán manuṣyā̀ḥ.

'Aditi, desiring sons, cooked a Brahman's rice pap for the Sādhya gods. They gave her what was left over. She ate it. She received seed. The four Ādityas were born from her. She cooked a second (pap). She reflected: "From what was left over, these have been born to me; if I eat beforehand, still better ones will be born to me." She ate beforehand. She received seed. A miscarried egg was born by her. She cooked a third (pap) only for the Ādityas. "This labour of mine shall be of use to me" (she said). They spoke: "Let us choose a boon. He who will be born hence, shall be one of us. He who of his offspring will thrive shall be of use to us." Then Vivasvant, the son of Aditi, was born. Men are his offspring here.'

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[1] CALAND's translation (1908:66) is grammatically incorrect.

[2] Presumably to be understood as 'miscarried' [cf. German *verwerfen* 'to miscarry' (of animals)].

4) ŚB III 1,3,3.4

aṣṭáu ha vái putrā́ áditeḥ. yā́ms tv ètád devā́ ādityā́ íty ācákṣate saptá haivá té. 'vikṛtaṃ hāṣṭamáṃ janayā́ṃ cakāra mārtāṇḍám. saṃdeghó haivā̀sa yā́vān evòrdhvás tā́vāṃs tiryáṅ púruṣasammita íty u háika āhuḥ. tá u haitá ūcuḥ devā́ ādityā́: yád asmā́n ánv ájani mā́ tád amuyèva bhūd. dhántemā́ṃ vikarávāméti. táṃ vícakrur yáthāyáṃ púruṣo víkṛtas. tásya yā́ni māmsā́ni saṃkṛ́tya saṃnyāsús táto hastī́ sámabhavat. tásmād āhur: ná hastínaṃ prátigṛhṇīyāt. púruṣājāno hí hastiti. yám u ha tád vicakrúḥ sa vívasvān ādityás. tasyemā́ḥ prajā́ḥ.

'Aditi had eight sons. But those called "the Āditya gods" were only seven. The eighth she brought forth unshaped. He was only a lump; he was as big transversely as he was vertically; some say "equal to a man". Then the Āditya gods said: "What has been born after us shall not perish. Come, let us shape this one." They shaped him the way a man is shaped[1]. From the pieces of flesh they cut off from him and collected, the one that has a hand (the elephant) arose. Therefore they say: "One shall not accept an elephant (as sacrificial gift), as the elephant originates from man"[2]. He whom they shaped in this way, that was Vivasvant, the son of Aditi. From him this offspring is descended.

In spite of the variations in the details, the above mentioned legends share the following points: Aditi has seven (TS: four) sons, the Ādityas proper. Her eighth (TS: fifth) son is born still remaining in an embryonic state. According to the ŚB he is *ávikṛta-* 'not shaped, not developed', to which passage JB I 267 *pañcame māsi garbhā vikriyante* 'the embryoes take shape in the fifth month' must be compared. The ŚB also speaks of a lump (*saṃdeghá-*) that is as big in height as in diameter transversely (*yā́vān evòrdhvā́s tā́vāṃs tiryaṅ*)[1]. This means the same as 'egg' in the phrase *mr̥tám āṇḍám* 'dead egg' (MS) and *vyr̥̀ddham āṇḍám* 'miscarried egg' (TS). It should not be doubted that the Indians of Vedic times were aware of the physiological identity of the egg of a bird and the embryo of a mammal or a human. Thus the use of the word *āṇḍá-* is justified in connection with Aditi. *āṇḍá-* therefore means the yet unshaped foetus or more particularly a miscarriage[2]. This meaning may also be inferred in RV I 104,8: *āṇḍā́ mā́ no maghavañ chakra nír bhet* 'do not split out (undeveloped) embryoes, O bountiful, mighty one'.

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[1] *ayám púruṣaḥ* 'man here on earth': *purusa-*, the primeval man, out of which the cosmos was created (RV X 90) is not intended here, nor in the preceding *púruṣasammita-* 'equal to a man'.

[2] The 'hand', i.e. the trunk of the elephant, probably is the reason for this idea, cf. KS.

The actions of the Ādityas (in MS, KS) also show that the eighth son of Aditi was thought of as a miscarriage: they performed abortion of the foetus (*nír-han*)[3]. The silence of TS and ŚB about this may have its origin in the fact that abortion of the foetus (*bhrūṇahatyā́-*) was thought of as a severe crime[4], which people did not wish to ascribe to the Ādityas. The motive behind the Ādityas' action is the fear that the last son of Aditi might be better (*śréyāṃs-* MS KS, *vásīyāṃs-* TS) than they themselves as a result of the peculiar manner of his conception[5], that he would attain the rule in this world[6] and would think himself to be superior (*áti-man*). The son of Aditi born in an embryonic state bears the name

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[1] It is not necessary to refute the opinion that a birdlike figure is intended here, as ROTH (1876: 392 f.) thinks.

[2] The motif of the world egg does not seem to me to be connected with it; cf. ŚB XI 1, 6, 1, 2; TB I 6, 2, 3; JB III 360 f. (CALAND, 1919: 295); CHU III 19, 1; for literature see CHARPENTIER (1933: 185 f.).

[3] The same meaning seems to be conveyed by *nír-bhid* in RV I 104, 8 (cf. above).

[4] MS IV 1,9 at the end, KS XXXI 7 *bhrūṇaháni bhrūṇahánam éno nátyeti* 'the guilt does not pass from one embryo slayer to (another) embryo slayer' (i.e. one cannot transfer it to some other person as other crimes), and ŚB IX 5, 1, 62 (see the note to my translation of the MS-passage given above).

[5] According to TS the 'miscarried egg' seems to be born because Aditi being a woman unproperly ate from the pap before serving it. As for eating pap at the Garbhadhāna cf, CALAND (1908: 65, annotation).

[6] The idiom *idám bhū* 'to attain the rule in this world' is to be explained on the basis of *rāṣṭrám bhu* 'to become the rule, the government', i.e. to attain the rule (e.g. MS III 3,7: 40, 7,8 = KS XXI 10 : 50, 2, 3; TB I 7, 7, 4; ŚB XIII 1, 6, 3). *rāṣṭrám* is a predicative nominative, as is shown by MS III 3, 7 : 40, 7 (cf. KS XXI 10 : 50, 2): *ayáṃ rāṣṭrám*

Mārtāṇḍá- according to MS and ŚB, and the former adds that his offspring are men here on earth (*yásyemé manuṣyā̀ḥ prajā́*). But after the foetus has been shaped because of Aditi's pleading Vivasvant (MS KS TS ŚB) arises from it, of whom it is said that he is the father of Manu Vaivasvata and of Yama (MS), or that mankind arose from him (TS ŚB)[1].

The figures of Yama and of his father Vivasvant already belong to the mythology of the Indo-Iranian period. According to the Avesta, Yima rules in a Golden Age until he loses his reign because of a guileful, false utterance (Yt 19,32-35), and is killed (Yt 19,46) His father Viuuaŋhant is the first mortal (*paoiriiō mašiiō*) who presses *haoma-* (Y 9,4). According to the Veda, Yama is the first mortal and king in the realm of the "fathers". The figure of Vivasvant is more elusive. As in the Avestan tradition he may be regarded as mythical sacrificer because of his connection with Soma and the sacrificial fire; but this activity takes place in heaven. A real indication that he originally had been a sun-god, as he indeed was in post-Vedic times (thus HILLEBRANDT, 1929: 343 ff.) is not furnished by the texts. Not until after the period of the RV proper was Vivasvant also regarded as father of Manu, the primordial man (Vālakhilya RV VIII 52, 1 ?; AV VIII 10,24).

By virtue of the "genealogy" found in the Yajurvedic legend, according to which Vivasvant was shaped out of a miscarriage of Aditi, he is connected with the group of the Ādityas. It is likely, that this is only a subsequent construction whereby the father of the two primordial men, Yama and Manu, was identified with Mārtāṇḍa, the son of Aditi[2]. It is in any

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syāt 'this one might be the government', i.e. 'this one might hold the rule'. The idiom *idám bhū* has to be supplied with *rāṣṭrám:* 'to become this (government)', i.e. 'to attain the rule in this world'; *rāṣṭrám* has also to be supplied with *idám as* 'to be this (government)', i.e. 'to hold the rule in this world', cf. TS II 1, 4, 4 *yamó vā́ idám abhūd yád vayám smáḥ* 'Yama has become this (government) which we are', i.e. 'Yama has attained the rule in this world which we hold', TS II 4, 12, 5 *yénāhám idám ásmi* 'by which I hold the rule in this world', MS I 6, 12 : 104, 16 (cf. above) *āvám idám bhaviṣyāvo yád ādityā́ḥ* 'both of us will attain the rule in this world which the Ādityas hold', JB II 299 *maruta evedaṃ sarvaṃ bhavanti* 'the Maruts gain complete power in this world'. This idiom already dates from Indo-Iranian times, cf. Yt 5, 22 *yaθa azəm upəməm xšaθrəm bauuāni* 'that I gain the highest power'.

[1] 'These beings are descended from Aditi' (KS).

[2] As for the identification of Mārtāṇḍa and Vivasvant in the Purāṇas cf. the text in KIRFEL (1927: 284 f.), translated by BLAU (ZDMG 62, 1908: 340 f.; about its relation to the Vedic legend: 354 f.)

case impossible to infer a closer connection from the few occurrences where Vivasvant is mentioned together with the Ādityas (RV VIII 67,20; X 65,6; AV XIX 9,7). Thus the Mārtāṇḍa-myth must still have been independent during the period of the RV. Despite their fragmentary character the facts that can be ascertained from the strophes RV X 72, 8.9 are clear enough with regard to the substance of the Ṛgvedic myth. Aditi does not introduce Mārtāṇḍa into the original family of the gods but lays him aside (*párā mārtāṇḍám āsyat*), i.e. she does not regard Mārtāṇḍa as a real son, a fact clearly shown by the use of *párā as* (with respect to new born children) in other instances[1]. That he was regarded as a miscarriage also in Rgvedic times may easily be concluded from his name. The shape which Mārtāṇḍa was thought to have had seems to correspond also to the later conception, for in MS and ŚB the dead foetus itself is called *mārtāṇḍá-*. Even though the vṛddhi-derivative *mārtāṇḍá-* means 'coming from a dead egg (foetus)' it may be supposed that this formation was only intended to create a personal name, since the neuter expression *mṛtám āṇḍám* was completely unfit to be the name of Aditi's son. *Mārtāṇḍa* is brought back by Aditi 'for offspring, but also for death' (*prajā́yai mṛtyáva tvat*). Thus together with his offspring, death comes into this world. There is no reason to understand anything other than mankind in the expression 'Mārtāṇḍa's offspring', which would deviate from the Yajurvedic texts themselves. Mankind is Mārtāṇḍa's offspring, but according to all texts he is not the first man, but the divine ancestor of man[2].

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[1] *párā as* in RV IV 18, 8 ..*tvā yuvatíḥ párāsa* 'the young woman has laid you (Indra) aside' is parallel to *gúhā kṛ* 'to conceal' in strophe 5 *avadyám iva mányamānā gúhākar índram mātā́* 'regarding him as a disgrace, the mother concealed Indra (after his birth). This is a motif which explains the connection of Indra with Mārtāṇḍa in the MS-version. The correspondence of *párā as* and *gúhā kṛ* also confirms the opinion of BÖHTLINGK (ZDMG 44, 1890; 494 f.) that one cannot infer an exposure of girls from the passage TS VI 5, 10, 3: *tásmāt stríyam jātā́ṃ párāsyanty út púmāṃsaṃ haranti* 'therefore one lays a new born girl aside, a boy is lifted up'. On the other hand JB III 221 shows that *párā as* also could be connected with the intention of killing: *yaṃ vai kumāraṃ parāstavā abravīr* [manuscript: parāstāvabravīr, cf. IIJ 4, 1960: 26 f | *ayaṃ sa jīvati* 'the boy whom you ordered to be laid aside (allegedly not being viable] is still alive'. Cf. also AV XX 129, 6 (= Khila V 15, 2 SCHEFTELOWITZ, 1906: 160) *sādhúm putrám hiraṇyayáṃ kvā́ha tám párāsyaḥ* and ĀpŚS I 8, 7 *ye garbhe mamrur uta ye parāstā ya uddhatā uta ye nikhātāḥ* '(the "fathers") having died in the womb and having been laid aside, having been taken up (*uddhṛta-* see above TS VI 5, 10, 3) and having been buried.

[2] The rather widespread opinion that Mārtāṇḍa is the sun-god is not proved by the Vedic texts, but is based on the post-Vedic identification of Surya, Mārtāṇḍa and Vivasvant.

In a similar way, *Gaiia-* or *Gaiia- marətan-* (Pahl. *Gayōmart*) holds a position between divinity and mankind according to Avestan tradition. Thus in the Frauuaṣ̌i-litany Y 23, 2, for instance, Ahura Mazdā, the Aməṣ̌a Spəṇtas, the spiritual Yazatas, Gaiia marətan, Zaraθuštra, Kauui Vīštāspa, Zaraθuštra's son Isat̰, vāstra and the first teachers of the faith are venerated successively. In Y 68,22 the order is as follows: Ahura Mazdā, the Aməṣ̌a Spəṇtas, Miθra, the Sun, the eyes of Ahura Mazdā, the Cow, Gaiia, the Frauuaṣ̌i of Zaraθuštra. Otherwise, there is only one more detailed statement (Yt 13,87): 'We venerate the Frauuaṣ̌i of the aṣ̌a-possessing Gaiia marətan, who as the first person followed Ahura Mazdā's thought and commandments, from whom he (Ahura Mazdā) created the navel (origin) of the Aryan lands, the seed of the Aryan lands' (*yō paoiriiō ahurāi mazdāi manasca gušta sāsnā̊sca, yahmat hace frāθβərəsat̰ nāfō airiianąm dax́iiunąm ciθrəm airiianąm dax́iiunąm*). Immediately preceding this statement Gaiia is mentioned in a Frauuaṣ̌i-litany (Yt 13,86) after Heaven, Water, Earth, Plants, and the Cow. In exactly this order, Ōhrmazd created the material world according to the Greater Bundahišn[1]. The creation of the Cow and Gayōmart is described as follows[2]:

'Fifth he (Ōhrmazd) fashioned the lone-created Cow in Ērān-vēz, in the centre of the world, on the bank of the river Vēh Dāiti, where the centre of the world is. She was white and shining like the moon[3], and her height was thrice normal. And for her assistance he gave her water and plants, for in the mingled state she gets strength and growth from them. Sixth he (Ōhrmazd) fashioned Gayōmart, shining like the sun, and his height was four times normal, his breadth was equal to his height, on the bank of the river Dāiti, where the centre of the world is. Gayomart was on the left side, the Cow on the right side, and their distance from each other and the distance from the water of the Dāiti was as much as their height. They had eyes, ears, tongues and sex characteristics (?). The fact that Gayōmart had sex characteristics (?) is this that men have been born from his lineage in his likeness. And for his assistance he gave him repose-giving Sleep, for Ōhrmazd fashioned forth Sleep in the shape of a tall, shining man, fifteen years old. And he fashioned Gayōmart and the Cow out of earth, and from the light and the golden shining of the sky he fashioned forth the seed both of men and cows, since these two seeds originate from fire, not from water. He put it in the bodies of the Cow and Gayōmart, that from it the multitude of men and animals should arise.'

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[1] For text and translation cf. ZAEHNER (1955: 278 ff. and 312 ff.).

[2] Translation by Dr. Gert Klingenschmitt (Erlangen). Cf. ZAEHNER (1955: 284, and 319 respectively); REITZENSTEIN-SCHAEDER (1926: 214 f.).

[3] Cf. Yt 7, 0 *mā̊ŋhahe gaociθrahe gə̄ušca aēuuō.dātaiiā̊ gə̄ušca pouru. sarəδcaiiā̊* 'of the moon, who possesses the seed of the Cow, of the lone created Cow, and of the Cow having many kinds'.

The close connection of the Cow and Gayōmart is to be found in the same order in Avestan, too: Cow and Gaiia (Y 68,22: Vr 21,2; Yt 18,86), Cow and Gaiia marətan (Yt 13,7; Y 26,4.5). A similar creation-story must therefore have been known to the Avesta. The statements of the Bundahišn about the Cow and Gayōmart run parallel to each other generally. Both were fashioned on the bank of the river Dāiti. The Cow is as bright as the moon. Gayōmart as bright as the sun. But there is a particular statement about Gayōmart: mankind was born from his kind in his likeness (*mardōm az ōy tōhmay paδ hān angōšīδay zāδ hēnd*). Even if man in general is spoken of here, still the origin of the Iranian nation is especially kept in mind. This is clearly shown by the creation of Gayōmart on the bank of the river Dāiti (Avest. Dāitiiā), which flows through the mythical home of the Iranians. Therefore there is no contradiction to Yt 13,87 according to which Ahura Mazdā created the navel[1] and seed of the Aryan (Iranian) lands (i.e. peoples) from Gaiia marətan. The question whether Gaiia marətan has to be regarded as the first man (having the right creed) or as "prototype préexistant de l'humanité" (CHRISTENSEN, 1917:31 ff.) cannot be decided unequivocably, cf. the critical remarks of HARTMAN (1953:27 ff.).

In the story of the creation of Gayōmart there is an additional passage saying 'his breadth was equal to this height' (*pāhnay cīōn bālāy rāst*). SCHAEDER (in REITZENSTEIN-SCHAEDER, 1926: 214[1]), who also incorrectly connects this statement with the Cow, notes "the spherical form, here, as often, was thought to be the perfect shape" and sees here a trait which originated from theological speculation and not from mythical fancy. WIDENGREN (1955: 6) also points to the spherical form of the cosmos without taking into account the fact that the "cosmic primeval man" and the speculation about macrocosmos and microcosmos occur nowhere, so far as I know, in connection with the name Gayōmart, cf. also ZAEHNER (1955: 136 ff.). The statement of Gayōmart's spherical form appears in a different light when compared with the ŚB-passage, which agrees in meaning. 'He was as high transversely as he was vertically (*yā́vān evòrdhvas tā́vāṃs tiryáṅ*) is said about Mārtāṇḍa, in paraphrasing in a more refined way the word *āṇḍá-* of the older Yajurvedic texts (MS TS).

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[1] I do not see any reason to attribute the meaning 'family' (BARTHOLOMAE, 1904 : 1062) , here to Avest. *nāfah-*' navel, (common) origin, blood relation'; and to interpret it as 'royal family' HARTMAN, 1953 : 36 f.).

The function and shape of Gayōmart and Mārtāṇḍa agree with each other and therefore raise the question whether both names should not go back to the same mythological idea. It is not to be doubted that the Bundahišn contains much old material. CHRISTENSEN (1917: 32) assumes that Gaiia marətan must have had a position already in the legends of the Gathic period, for the mentioning of the 'soul of the Cow' (Y 28,1; Y 29) would presuppose a counterpart. WESENDONK (1924: 175, 187), who on account of the uncertainty with regard to the dates of the texts warns against incorrect inferences, calls Gaiia marətan a priestly creation formed by the Magi according to Near Eastern beliefs about the primeval man (1933: 232). HARTMAN (1953: 13-44) seeks the origin of Gaiia and Gaiia marətan, whom he thought to be originally different from Gaiia, in the Zurvanic interpretation of the Gatha-strophes Y 30, 4-6. I think it impossible to construct a legend from the text of these strophes. The contrary is much more likely: a legend already existent was read into these Gatha-strophes because the words *gaiia-* and *marətan-* occur in them. Thus NYBERG (1938: 299f.) also reckons with the existence of Gaiia marətan in the "Mithraic community". It is a well-known fact that the names and attributes of the old Aryan deities which do not occur in the Gathas of Zarathustra reappear in the Younger Avesta. If one now postulates the existence of the Mārtāṇḍa myth for the Indo-Iranian epoch, a survival of it in a Zoroastrian form is not very surprising, since from the point of view of the history of religion, Zoroastrianism is connected very closely to the Vedic Āditya circle. CHRISTENSEN (1917: 41 ff.) believes the name Gaiia marətan 'mortal, human life' to be a personified abstraction just as Vohu manah, Xšaθra vairiia etc. But WESENDONK (1924: 174) rightly objects to assuming that this name was invented by Zarathustra himself. And in fact, there is a trace which points to the pre-Iranian age of the name Gaiia marətan.

In the Ṛgvedic hymns X 63 and 64, which are addressed to the Allgods, Aditi and the Ādityas play a prominent role. In X 64,13 there is one of the few indications that mankind originated from Aditi: 'At the navel, where we come together at first, (there) Aditi shall confirm our blood relation' (*nā́bhā yátra prathamáṃ saṃnásāmahe tátra jāmitvám áditir dadhātu naḥ*). It cannot be a coincidence that the poet one time mentions Gaya, the other time Amartya Gaya at the end of these two hymns. As *ámartya- gáya-*'immortal life' surely is not to be interpreted as the name of a human poet, the aim of the poet could have been to identify himself with a super-natural being of this name. The prerequisite for such an identification is given for instance by the ambiguity of *mánu-*, which can mean 'primeval man' as well as 'man'. Thus the 'immortal life' (*ámartya- gáya-*) of the Vedic Āditya circle could be opposed to 'mortal, human life' (*gaiia-marətan-*) in Iran. These can only be two aspects of Gaya, who is mentioned both in the Veda and in the Avesta without epithet, depending on whether he was regarded as one of the Ādityas or one of mankind.

gáya- 'life' as the name of one of Aditi's sons fits the Āditya group very well, to which in addition to the main gods Varuṇa, Mitra and Aryaman, belong the abstract beings Bhaga ('fortune'), Aṃśa ('share') and Dakṣa ('ability'). But in the younger parts of the RV, and later on gonerally, the sun-god is called *ādityá-* (I 50,13; I 191,9; VIII 101,11) or *āditeyá-* (X 88,11). This seems to have led to the post-Vedic identification of Mārtāṇḍa, the last, "egg"-shaped son of Aditi, with the sun-god. But this could also be an old trait of the myth, if the statement of the Bundahišn that Gayōmart is as bright as the sun is more than a theological speculation.

The question of the origin of mankind has been asked again and again and has been given many answers. One of them is furnished by the Veda with its Mārtāṇḍa myth: mankind originated from an "egg"-shaped miscarriage of the goddess Aditi[1]. I hope to have shown that the Iranian Gayōmart may be traced back to the same conception.

Now only the task of interpreting RV II 38,8 remains:

yādrādhyàṃ váruṇo yónim ápyam
ániśitaṃ nimíṣi járbhurāṇaḥ
víśvo mārtāṇḍó vrajám ā́ paśúr gāt
sthaśó jánmāni savitā́ vy ā́kaḥ

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[1] Another motif, this time that of an androgynous primordial being, is furnished by BĀU I 4, 1 ff.; cf. GÖTZE (1922: 170 ff.).

In this strophe, as mentioned at the beginning of this paper, the meaning 'bird' is generally assumed for *mārtāṇḍá-*[1]. I believe to have shown definitely that this meaning is by no means to be ascribed to the other Vedic occurrences of this word. This occurrence, too, agrees in so far as besides *mārtāṇḍa-*, Varuṇa is mentioned, and thus the first and the eighth son of Aditi are mentioned together[2]. If one thinks this fact to be decisive, one has to translate: 'As soon as possible Varuṇa (goes) to his watery home, he who is moving around at (the time of) the nodding off (of mankind). Every one, Mārtāṇḍa (too), (goes home), the cattle go to their pen. According to their position, Savitar distributed these beings.' Also when translating *víśvo mārtāṇḍó vrajám ā́ paśúrgāt* in the usual way, one has to add something, cf. for instance GELDNER (1951, I : 326): 'Every bird went (toits nest), the cattle to their pen'. One must observe, though, that in this elaborate hymn which, almost without any repetitions, relates the actions of Savitar in the evening, the birds have been mentioned in strophe 7 already: *vánāni víbhyaḥ* 'the trees are for the birds'. One can avoid supplementing any words by translating *vrajá-* 'pen' approximately in the sense of 'nightly place of sojourn': 'Everybody, Mārtāṇḍa, the cattle go to their pen'. It is not necessary to seek in Mārtāṇḍa anything other than the eighth son of Aditi, from whom man originated. But it may be possible that the poet took the mythological name in the metaphoric sense 'man'. RV VI 71,2 points to this possibility: *yó víśvasya dvipádo yáś cátuṣpado nivéśane prasavé cási bhúmanaḥ* '(Savitar,) you that are present at (the time of) going to sleep and at (the time of) impelling everyone, the biped, the quadruped, the world'. Instead of *víśva-*, *mārtāṇḍá-*, *paśú-*, but in the same position, the words *víśva-*, *dvipád*, *cátuṣpad-* are mentioned, i.e. *mārtāṇḍá-* takes the place of *dvipád-* 'biped, man'.

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[1] I do not want to discuss here this strophe in all details and I will not comment on the earlier interpretations. This has been done in the rough draft of this paper. The many references on literature given to me by Professor WALTHER WUEST (Munich) for this paper years ago have been an indispensable help to me, for which I should like to express my heartfelt thanks.

[2] In order to save the possibility for interpreting *mārtāṇḍa-* as 'bird', *váruṇa-* was even interpreted as 'fish'; see BOEHTLINGK-ROTH (1855-75, VI: 944), HILLEBRANDT (1929: 205; 1913: 92; ZII 4, 1926: 211). There is no reason to refute this, for the relation of the god Varuṇa to the waters is a long known mythological fact, cf. LUEDERS (1951).

Excursus on *prāṇámanūdáśrayata* (MS)

Schroeder's conjecture (1887: 105) *prāṇámaṃ* (= *prāṇámān*) *udáśrayata* is not possible due to the incorrectness of the formation of **prāṇámant-* (cf. Wackernagel-Debrunner, 1954: 882). Caland (ZDMG 72, 1918:6) in order to strengthen his emendation *prāṇám anūdáśrayata* (manuscripts *prāṇámanūdáśrayata*, *prāṇámanudā́śrayata*) inserted in the text (as given also by me), refers to MS II 2,8: 21,16 = KS X 10 : 136,17 *tád imā́ṁl lokā́n ūrdhvám anū́daśrayata* ('this, i.e. the *indriyá-*, rose high above these worlds'). Caland believes however, that this passage meant 'Indra rose according to her (i.e. Aditi's) vital breath (i.e. was born from her mouth)'. This is not very probable, for *prāṇá-* 'vital breath' in the following passage stands in opposition to *mṛtá-* 'dead' and therefore refers to Indra. The phrase *prāṇám ánu* is to be found in TS VI 5,8 *práṇā́m evā́nu prayánti prāṇám anū́dyanti* 'according to *prāṇá-* they go forward, according to *prāṇá-* they go upward'. In the parallel passages *prāṇám ánu* is replaced by the instrumental *prāṇéna:* MS IV 7,4 : 97,1 *prāṇéna vā́ etát prayánti prāṇénódyanti*, KS XXVIII 8 : 162,14 *prāṇenaiva prayanti prāṇenodyanti*. This variation should be added to Oertel (1937: 55, § 42). In a similar way, the TS-version of *tásmāt prāṇáṃ prajā́ anu prá jāyante* 'therefore the offspring reproduce according to the vital breath' is replaced by an ablative in MS IV 7,4 : 97,6 *prā́ṇā́d ádhi prajā́ḥ prá jāyante*, KS XXVIII 8 : 162, 12 *prāṇāt prajāḥ prājāyante* 'according to the breath, the offspring reproduce'. This meaning should also be attached to *prāṇám anūdá-śrayata* in the passage under discussion: 'according to his breath, i.e. because of the breath residing in him'. The expected accentuation *ánūdáśrayata* need not to be emended because of the fluctuation between (independent) postposition and preverb. The subordinate-clause accentuation of *-áśrayata* is justified in antithetic coordinate clauses (Weber, 1873:71 ff.; Delbrück, 1888: 42 f.; Oldenberg, ZDMG 60, 1906: 707-741); cf. also the passage TS VI 5,8 (*pra-yánti: úd-yanti*) mentioned above.

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Abbreviations

ĀPŚS = Āpastamba-Śrauta-Sūtra
AV = Atharvaveda
BĀU = Bṛhad-Āraṇyaka-Upaniṣad
ChU = Chāndogya-Upaniṣad
IIJ = Indo-Iranian Journal
JAs = Journal asiatique
JB = Jaiminīya-Brāhmaṇa
KS = Kāṭhaka-Saṃhitā
KZ = Zeitschrift für vergleichende Sprachforschung auf dem Gebiete der indogermanischen Sprachen
MS = Maitrāyaṇī-Saṃhitā
MSS = Münchener Studien zur Sprachwissenschaft
Pahl = Pahlavī
PB = Pañcaviṃśa-Brāhmaṇa
PS = Paippalāda-Saṃhitā
RV = Ṛgveda
ŚB = Śatapatha-Brāhmaṇa
TB = Taittirīya-Brāhmaṇa
TS = Taittirīya-Saṃhitā
Vr = Vīsperad
WZKM = Wiener Zeitschrift für die Kunde des Morgenlandes
Y = Yasna
Yt = Yašt
ZII = Zeitschrift für Indologie und Iranistik
ZDMG = Zeitschrift der Deutschen Morgenländischen Gesellschaft

THE ARAMAIC AŚOKA INSCRIPTION FROM TAXILA*

BY

HELMUT HUMBACH (Mainz)

In 1915, SIR JOHN MARSHALL discovered at Sirkap, on the site of the ancient city of Taxila, an inscription written in Aramaic script, which was carved into a part of an octagonal pillar built into the wall of the priest's quarters belonging to the shrine of the double-headed eagle.[1] Later on the piece was transferred to the Karachi Museum, where it is now accessible to the public. As the Aramaic script is of the Semitic type, the inscription runs from right to left in the same way as Kharoshthi texts do. It comprises twelve lines, of which only the right-hand part, (approximately two thirds), is preserved, whereas the left-hand part, (approximately one third), is entirely lost. In what has come down to us, a number of Aramaic words are discernible. The use of the Aramaic script and language originates in Aramaic having been the administrative language of the Achaemenian empire, a satrapy of which was formed by the Indus region, with Taxila as its capital. However, the Aramaic of the Taxila inscription is neither correct nor pure, but is to a considerable degree barbarized, the vocabulary being mixed with a remarkable number of Iranian words, and the rules of grammar blatantly neglected. This sort of Aramaic does not seem to have been a spoken idiom, but merely a written medium of communication, which was exclusively employed by professional scribes, whose mother-language was one of the numerous Iranian dialects. For this reason it is better called Aramaeo-Iranian.[2] As a matter of fact, it

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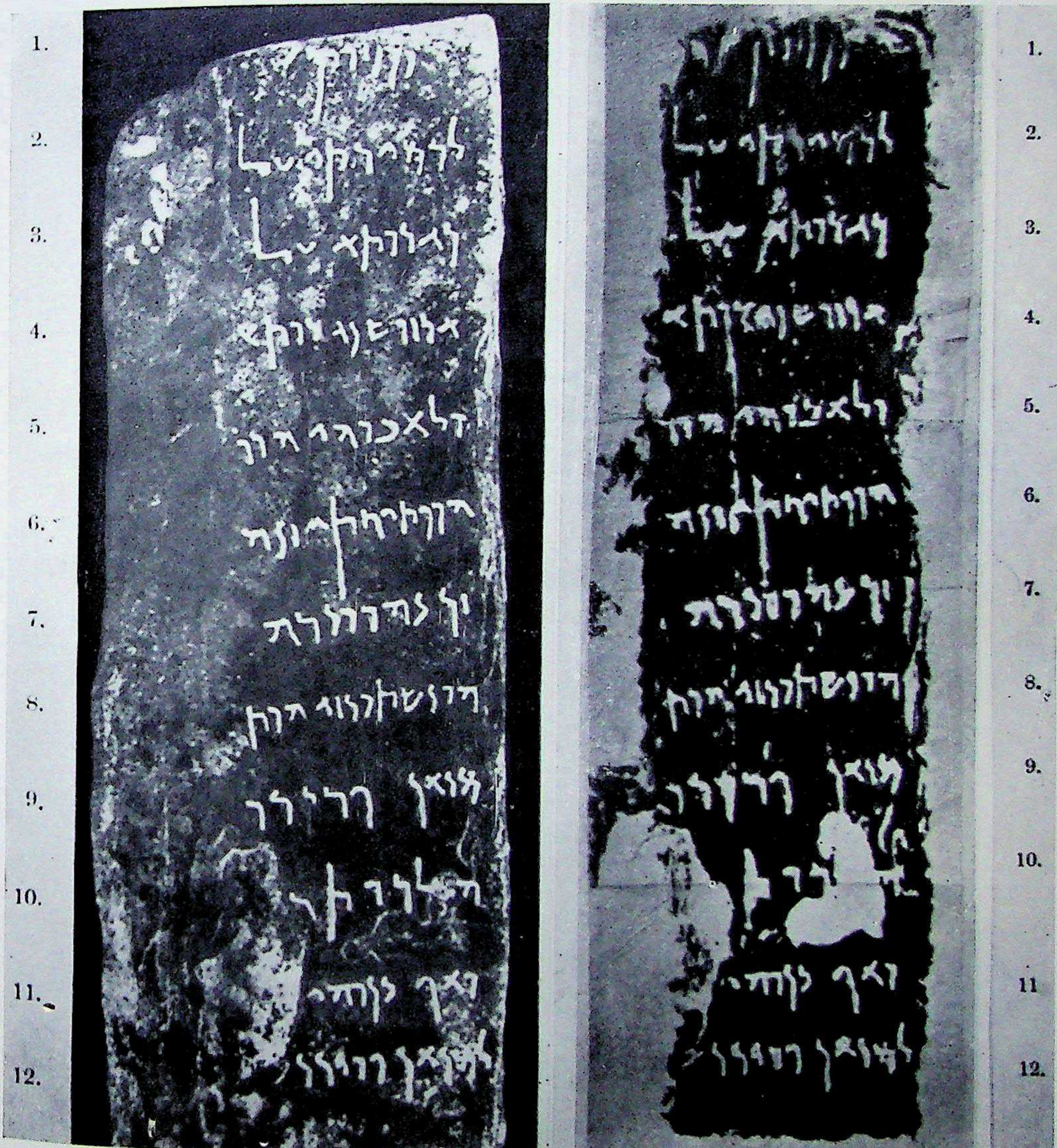
* This article is mainly based on H. HUMBACH: *Die aramäische Inschrift von Taxila.* Akademie der Wissenschaften und der Literatur. Abhandlungen der geistes- und sozialwissenschaftlichen Klasse. Jahrgang 1969, Nr. 1 (p. 1-13). The results of further research, published by the author in a number of articles quoted below, have been incorporated. Cf. also the review by R. DEGEN in: Zeitschrift der Deutschen Morgenländischen Gesellschaft 122 (1972), p. 289 f.

[1] SIR JOHN MARSHALL: *A Guide to Taxila.* 3rd ed. London 1960, p. 74, pl. IV.

[2] H. HUMBACH: *Additional Notes on the Aramaic Inscription from Taxila.* In: Münchener Studien zur Sprachwissenschaft 26 (1969), p. 39-42. — *Late Imperial Aramaic and Early Pahlavi.* Ibidem 30 (1972), p. 47-50. — *Aramaeo-Iranian and Pahlavi.* In: Acta Iranica. Vol. 2. Teheran-Liege 1975.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The Aramaic Inscription from Taxila

Left : Photo published by BARNETT. Right : Squeeze published by ANDREAS.

represents an early stage of the development of the Iranian scripts of the Pahlavi type (Middle-Persian, Parthian, Sogdian, Khwarezmian) which, as is well known, make use of a large inventory of Aramaic spellings for graphically rendering Iranian words, such as Aramaic *mlk*' 'king' and *šnt* 'year' for the spoken forms Middle Persian *šāh* and *sāl* or Parthian *šāh* and *sard*, respectively. The transitional stage met with in the Taxila inscription may have been reached towards the end of the Achaemenian rule, or even in the period of Alexander and his successors, under whom Aramaic — or what had become of it — continued, in competition with Greek, to be used as an administrative language.

In the year of its discovery, a facsimile of the inscription was published by MARSHALL in the Archaeological Survey of India.[1] A photograph supplied by MARSHALL is found in the Journal of the Royal Asiatic Society of the same year, in which the Indologist, L. D. BARNETT, and the Semitologist, A. COWLEY, dealt with the enigmatic text in two separate articles.[2] Independently of each other, both scholars succeeded in discerning several words and sequences such as Aramaic *l* 'to, for' (lines 2, 12), '*l* 'upon' (lines 2, 3), *w-l-*' *bwhy* 'and to his father' (line 5), *znh* 'this' (line 6), *zy* 'which' (line 8), *mr*' *n* 'our lord' (lines 9, 12), *w-'p-bnwhy* 'and also his sons' (line 11). Both also agreed in reading the sequences '*rzwšn* (line 4) and *bhwwrdh* (line 10), which, however, were misinterpreted by them. Besides *zk* 'that' (line 7) was correctly discerned by COWLEY, and *hlkwt* 'conduct' (line 10) by BARNETT. On the other hand, there were a number of serious discrepancies between BARNETT and COWLEY, which were mainly due to the fact that in the inscription one cannot distinguish the letter *d* from the *r*, and the letter *t* from the *q*.

Thirteen years later, in 1928, the inscription was treated anew by the archaeologist E. HERZFELD in a letter address to MARSHALL, and published by the latter in Epigraphia Indica.[3] HERZFELD was the first to notice that the text twice shows the sequence *mr'n prydrš* 'our lord Priyadarśi' (lines 9, 12). The two words were convincingly explained by him as being nothing but the title and the ordination name of the Emperor Aśoka:

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[1] J. MARSHALL in: Archaeological Survey of India, 1914/15, p. 25 f.

[2] L. D. BARNETT: *An Aramaic Inscription from Taxila.* In: Journal of the Royal Asiatic Society, 1915, p. 340-342. — A. COWLEY: *The First Aramaic Inscription from India.* Ibidem, p. 342-347.

[3] E. HERZFELD: *A New Asokan Inscription from Taxila.* In: Epigraphia Indica 29 (1927/28), p. 251-253.

"Who, unless Aśoka himself, in his endeavourings to propagate the new faith, could have had any interest to employ, in India, at that period, an occidental, the Aramaic script and language ? Hence, I take it for settled, that the Taxila inscription is a new Aśoka inscription." Thus, the date of the inscription could be placed in the middle of the third century B.C.

Further progress in deciphering was achieved by the Iranologist F. C. ANDREAS, who studied the inscription from 1917 until his death in 1930, the results of which were published posthumously, in 1932, by H. A. WINKLER.[1] Independently of HERZFELD, ANDREAS had discerned the name *prydrš* 'Priyadarśi', and he succeeded in identifying in the Aramaic written text two noun compounds of Iranian origin, namely *hwptysty* 'good obedience' (line 6) and *hwnštwn* 'good command' (line 8). Both are formed with the first member *hw-* 'good' (Avestan *hu-*, Old Persian *u-*). As to the respective second member, *ptysty* is the same as Avestan *paiti.asti-* 'obedience', whereas *nštwn* is identical to Biblical Aramaic *nštwn* 'command, order (of the Persian King)', an administrative term, apparently borrowed from Iranian _*ništā-wana-_.[2]

ANDREAS' efforts were taken up again in 1949 by the Classical Historian, F. ALTHEIM, in a pamphlet on the history of the Avesta text.[3] On the basis of the assumption that *ptysty* 'obedience', being attested in the Avesta, was a specifically Zoroastrian term, Altheim attempted to draw inferences from the Taxila inscription as to the textual tradition of the Avesta in the post-Achaemenian period. This attempt was fruitless, yet two of ALTHEIM'S contributions to the decipherment itself are acceptable, namely the readings *dmydty* (line 2) and *'rzwš* (line 4), although the right translations of these two words were not found by him.[4]

COWLEY and ANDREAS had deemed the inscription to be a memorial, whereas ALTHEIM pleaded for a record of some kind of construction. However, the main interest of the scholars dealing with the text, was its historical

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1. F. C. ANDREAS : *Erklärung der aramäischen Inschrift von Taxila.* Aus dem Nachlass herausgegeben von Dr. H. A. Winkler. Nachrichten von der Gesellschaft der Wissenschaften zu Göttingen. Philologisch-historische Klasse. Jahrgang 1932, Heft 1 (p. 1-17).
2. ANDREAS, p. 13-15.
3. FRANZ ALTHEIM: *Awestische Textgeschichte.* Halle (Saale) 1949. The pages referring to the Taxila inscription have been reprinted many times with slight moderations. The latest reprint is found in: Geschichte Mittelasiens im Altertum. Berlin 1970, p. 338-343.
4. ALTHEIM, p. 7 f.

background. COWLEY had pointed out that the Aramaic title *mr'n* 'our lord', attributed in Taxila to Aśoka, is used in the Aramaic papyri, from Elephantine in Egypt, as the title of the Persian provincial governor.[1] From this, ANDREAS concluded that in the Taxila inscription Aśoka is mentioned not as emperor, but in a supposed pre-imperial function as provincial governor of Gandhara.[2] He was followed by MARSHALL: "The record is fragmentary, but there is enough to indicate that the pillar was set up in honour of a high official ... at the time when the crown-prince Aśoka, here referred to by his well-known title of Priyadarśi, was governor of Taxila on behalf of his father Bindusāra."[3] ALTHEIM even went as far as to concoct a colourful story from ANDREAS' idea: "At the time when the inscription was set up, Aśoka had not yet become king and successor to his father Bindusāra, but governed the western provinces as Kumāra, with Ujjayinī, (or Taxila), as his residence .... This explains the strange occurrence of an Avestic term [scil, *hwptysty* 'good obedience'] for a Zoroastrian virtue in the inscription. According to tradition, Aśoka's conversion to Buddhism took place three whole years after his Abhiṣeka, in other words, in the fourth year after that event. At the time of his governorship, he was not yet an Upāsaka, and had not started to profess his future belief, at least not publicly. On the contrary: our inscription shows that he recognized, or at least tolerated, the local religious practice. The use of Zoroastrian terms and their application under Aśoka's governorship, are mutually confirmed."[4]

ALTHEIM'S concept as a whole, as well as most of the details of his analysis of the text of the Taxila inscription, were incorporated by H. DONNER and W. ROELLIG into their meritorious collection of Canaanite and Aramaic inscriptions printed in 1964.[5] However, the sketch of the historical circumstances outlined by HERZFELD was more reasonable than ALTHEIM'S, and it would have been more worthy of consideration, all the more as it is confirmed by the evidence gained from the inscriptions of a similar type discovered in Afghanistan, and published between 1932 and 1974. These are as follows:

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1. COWLEY, p. 345.
2. ANDREAS, p. 15 f.
3. MARSHALL, *Guide to Taxila*, p. 74.
4. ALTHEIM, p. 11. Abandoned in: *Geschichte Mittelasiens*, p. 343.
5. H. DONNER, W. ROELLIG: *Kanaanaeische und aramaeische Inschriften*. Vol. 2. Wiesbaden 1964, p. 326 f.

1. A fragment of a bilingual inscription from Pol-e Darunta, Nangarhar Province, near the confluence of the Laghman and Kabul rivers. According to W. B. HENNING's ingenious explanation, the text consists of quotations taken from Aśoka's edicts and translated into the Aramaic Language (or, Aramaeo-Iranian, as it is called by the present author), and supplied with their respective Indian originals transliterated into Aramaic script, (1932.)[1]

2. The Greek and Aramaeo-Iranian bilingual inscription from Qandahar (Qandahar I). The inscription, which begins with a short reference to Aśoka's enlightenment in the tenth year of his reign, quoted in his Rock Edict VIII, contains the quintessence of his message, based on a free rendering of passages from Rock Edict IV. (1958.)[2]

3. A fragment of an Aramaeo-Iranian and Aramaeo-Indian bilingual inscription from Qandahar (Qandahar II). It renders a part of Aśoka's seventh Pillar Edict. (1966.)[3]

4. The first rock inscription from Laghman (Laghman I). It is dated the year 10 of Aśoka's reign and refers to his enlightenment. (1970.)[4]

5. The second rock inscription from Laghman (Laghman II), dated the year 16. (1974.)[5]

As is seen in the above synopsis, all of these inscriptions originate in the period after Aśoka's conversion. For this reason it would be rather surprising, if ANDREAS, MARSHALL and ALTHEIM would have been right in assuming, contrary to HERZFELD, that the inscription goes back to the time before Aśoka's accession. On the contrary, it is quite natural to attribute it to the same category to which the other five belong. Among the latter, Qandahar I, which had come to light even before DONNER's and ROELLIG's book had gone to print, is outstanding as far as it gives several further important hints as to the right analysis of Taxila:

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[1] Kabul 2 (1932), p. 413. — H. BIRKELAND: *Eine aramaeische Inschrift aus Afghanistan.* In: Acta Orientalia 16 (1938), p. 222-233.—W. B. HENNING: *The Aramaic Inscription of Aśoka found in Lampāka.* In: Bulletin of the School of Oriental and African Studies 13 (1949/50), p. 80-88.

[2] D. SCHLUMBERGER, L. ROBERT, A. DUPONT-SOMMER, É. BENVENISTE: *Une bilingue gréco-araméenne d'Aśoka.* In: Journal Asiatique 1958, p. 1-48.— G. PUGLIESE CARATELLI, G. LEVI DELLA VIDA: *Un editto bilingue greco-aramaico di Aśoka.* Rome 1958. — G. PUGLIESE CARATELLI, G. GARBINI: *A Bilingual Graeco-Aramaic Edict by Aśoka.* Rome 1964. — J. FILLIOZAT: *Graeco-Aramaic Inscription of Aśoka near Kandahar.* In: Epigraphia Indica 34 (1961/62), p. 1-8.

[3] É. BENVENISTE, A. DUPONT-SOMMER, C. CAILLAT: *Une inscription Indo-araméenne d'Aśoka provenant de Kandahar (Afghanistan).* In: Journal Asiatique 1966, p. 437-470.

[4] A. DUPONT-SOMMER: *Une nouvelle inscription araméenne d'Aśoka trouvée dans la vallée du Laghman (Afghanistan).* In: Académie des inscriptions et belles-lettres, 1970, p. 158-173. — H. HUMBACH: *Die aramäische Aśoka-Inschrift vom Laghman-Fluss.* In: Indologen-Tagung 1971, Wiesbaden 1973, p. 161-169.

[5] G. D. DAVARY, H. HUMBACH: *Eine weitere aramäoiranische Inschrift der Periode des Aśoka aus Afghanistan.* Akademie der Wissenschaften und der Literatur. Abhandlungen der geistes- und sozialwissenschaftlichen Klasse. Jahrgang 1974, Nr. ++. (In print).

At the beginning of Qandahar I we find Aśoka's full title given as *mr'n prydrš mlk'* 'our lord Priyadarśi, the King' (Greek *basileus piodasses* 'King Priyadarśi'). From this it is clear that the mutilated *mr'n prydrš* [. . .] appearing twice in Taxila, should be restored accordingly, and it becomes evident that Aśoka's title *mr'n* 'our lord' by no means excludes his having been king at the same time, as held by ALTHEIM.[1]

The word *hwptysty* 'good obedience' already known to us from Taxila, reappears in Qandahar I. It is used there to translate Prakrit *suśruṣa* 'obedience', found in Rock Edict IV, with which one may also compare *l-ptystykn'*, twice attested to in Qandahar II, as a translation of Prakrit *susussāyā* of Pillar Edict VII. This suggests the conclusion that the term *hwptysty*, erroneously adduced by ALTHEIM to demonstrate the Zoroastrian nature of the Taxila inscription, is not at all in contradiction to the Buddhist aim of the latter. Besides, there is enough material to show that the translator of the Aramaeo-Iranian version of Qandahar I made use of Zoroastrian terms to express Buddhist ideas, in the same way as the translator of the Greek version did not hesitate to render Buddhist concepts in the terms of contemporary Greek philosophy, a procedure which throws some light on the practice adopted by Aśoka's Buddhist missionaries in the West.[2]

The passage of Qandahar I under discussion runs *hwptysty l-'mwhy w-l-' bwhy w-l-mzyšty' 'nšn* 'good obedience to his mother and to his father and to the elders' (Greek: *kai énēkooi mētri kai patri kai tōn presbyterōn*)., which is a rendering of Prakrit *matapituṣu vuḍhanaṃ suruṣa*. Obviously, there is a close similarity between Qandahar I and the lines 5 and 6 of Taxila which have [. . . .] *w-l-' bwhy hww* [. . . .] *hwptysty*, and the question must be asked as to whether the Taxila inscription is not, perhaps, a translation of the same or, at least, of a similar Prakrit original.

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[1] The facts have been misinterpreted in a strange manner by H. SCHARFE: *The Maurya dynasty and the Seleucids*. In: Zeitschrift fur vergleichende Sprachforschung 85 (1971), p. 211 - 225 (especially p. 216 ff.).

[2] H. HUMBACH: *Buddhistische Moral in aramaeoiranischem und griechischem Gewande*. In: Acta Antique Academiae Scientiarum Hungaricae. (In print).

The similarity between the respective phrases of Qandahar I and of Taxila was already observed by É. BENVENISTE: "It would appear as if the words preserved at the beginning of both lines could be completed to give a text, the contents of which are roughly as follows: 'They have been [obedient to their mother] and to their father, and this obedience [will be promoted]'. Such a statement would be very similar to a passage of Rock Edict IV, which runs: *dhramacaraṇaṃ vaḍhitaṃ vaḍhiśati ca* 'the practising of Dharma has been promoted and will be promoted'.[1] BENVENISTE has thus got close to the solution of the problem of the Taxila inscription, but he did not really elucidate it. Unfortunately, he took Aramaeo-Iranian *hwptysty* 'good obedience' in Taxila as an equivalent of Prakrit *dharmacaraṇaṃ*, although Qandahar I, supported by Qandahar II, proves it to be a translation of Prakrit *suśruṣa* 'obedience'. Taking the equivalence *hwptysty* = *suśruṣa* as our point of departure, the inevitable conclusion is that Taxila is translated from Rock Edict IV, no less than Qandahar I. This is not contradicted by the discrepancies that exist between the two Aramaeo-Iranian versions. The difference in translation of Prakrit *vuḍhanaṃ* "the elders' by *mzyšty*' (from Avestan *mazišta-*) in Qandahar I and by *hww*[. . . .] (to be connected with Avestan *huuōišta-*) in Taxila is due to the fact that the translations of the Prakrit words had not been completely standardised. On the whole, Taxila must be more literal than Qandahar I, the word order being inverted in the latter, whilst it is observed in the former.

A closer examination of the context shows that the Taxila inscription, contrary to the previous assumptions discussed above, is nothing but a slightly abridged word-for-word translation of the central passage of Aśokas Rock Edict IV. This was already realized by the present author in his first article on the subject, published in 1969. However, further research involved several additions and corrections to this article, and it did not come to light until 1973 that Taxila commences with the Aramaeo-Iranian rendering of the extremely important Buddhist term *avihiṃsa* 'non-injury', placed in the middle of the first line, like the caption of a public announcement on a poster[2]).

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[1] Journ. As. 1958, p. 42.

[2] Indologen-Tagung, p. 168 f.

To illustrate the results achieved hitherto, the Aramaeo-Iranian text of the Taxila inscription is printed below opposite the corresponding Prakrit of Rock Edict IV, as found in the recension of Shahbazgarhi. In the Aramaeo-Iranian text lacunae are marked by square brackets [. . . .], and fragmentary or indistinct letters, by round brackets ( ). In the Prakrit, the passages that seem to be omitted by abridgement in Taxila, are denoted by pointed brackets <>.

	Aramaeo-Iranian of Taxila	**Prakrit of Shahbazgarhi**
		Tadiśe aja vaḍhite devanaṃpriyasa priyadraśisa raño dhraṃmanuśastiya: Anarambho Such as that has now been promoted by the friend of the gods, Priyadarśi, the king, through the Dharma proclamation: Non-killing
1.	— [. . .] *wt(ʾ)*— Non-injury	*prananaṃ. Avihisa* of living beings. Non-injury
2.	*l-dmydty ʻl* [. . . . .] to creatures. Towards [relatives]	*bhutanaṃ. Natinaṃ* to creatures. Towards relatives
3.	*ngdwtʾ ʻl [mgwš ?]* attention. Towards priests	*saṃpaṭipati. Bramaṇa-* attention. Towards Brahmins
4.	*ʾrzwš ngdwtʾ [l-ʾmwhy]* (and) pious men attention. [Towards his mother]	*śramaṇana sampaṭipati. Mata* and ascetics attention. Towards mother
5.	*w-l-ʾ bwhy hww [yšt]* and towards his father (and) the el[ders]	*pituṣu vuḍhanaṃ* and father (and) the elders
6.	*hwptysty znh [w-ʾ p)* good obedience. This [and also]	*suśruṣa. Eta* obedience. This
7.	*zk bhwwrd h [lkwt]* that Bahuv(r)ida c[onduct]	*añaṃ ca bahuvidhaṃ dhrama-* and many other kinds of Dharma-

8.	*hwnštwn zy hwt[yrh]* of the good command (it is), which he has promo[ted]	*caraṇaṃ vaḍhitaṃ <vaḍhiśati ca> yo* practise has been promoted and it will be promoted for ever
9.	*mr'n prydr [š mlk']* our lord Priyadar[śi, the king].	*devanaṃpriyasa priyadraśisa raño* by the friend of the gods, Priyadarśi, the king.
10.	*hlkwt (h) [wnštwn znh]* (This conduct of the good command)	*dhramacaraṇaṃ imaṃ.* this Dharma practise.
11.	*w-'p bnwhy [.....]* And his sons, too, [.....]	*Putra pi ca kaṃ nataro ca <pranatika ca>* The sons, too, and the grandsons and the great grandsons
12.	*l-mr'n prydr(š) [mlk']* of our lord. Priyadarśi, the king.	*devanaṃpriyasa priyadraśisa raño* of the friend of the gods, Priyadarśi, the king.
		pravadheśaṃti yo dhramacaraṇaṃ imaṃ. will promote this Dharma practise.

Commentary

Line 1: Barnett read *ḥprt* 'carved', Cowley *ṣdwq* 'memorial', Andreas *zqrwt* or *zqrwt'* 'remembrance', which, according to him, would have been incorrectly used by the author of the inscription in the sense of 'memorial'. However, of the traces of letters that have been preserved in this line, not much more is legible than the letters *wt* already discerned by Herzfeld, possibly *wt*('). This is very likely to be the Aramaic abstract suffix *wt*/*wt'* as found in *mlkwt*/*mlkwt'* 'kingdom' (from *mlk*/*mlk'* 'king') or in *šhdwt*/*šhdwt'* 'testimony' (from *šhd* 'to testify'). Such a formation would very well fit the translation of Prakrit *avihiṃsa* 'non-injury', which is required here. As to the suffix *wt*/*wt'*, cf. also *ngdwt'* (lines 3, 4) and *hlqwt* (lines 7, 10).

Line 2: The Aramaic preposition _l_ 'to, for' is used here to translate the Prakrit genitive. So, too, in line 12, but differently in line 5. The preposition _'l_ 'upon', which follows in the same line, seems to be employed in a similar sense, — Altheim was right when replacing the reading _dmyrqy_ '*Damirqi' (Cowley) and _rmydty_ '*Rāmèdātẽ' (Andreas) by _dmydty_, and connecting this with the Iranian proper name _dmydt_ attested in the Aramaic Elephantine papyri. However, he was wrong when taking the Taxila _dmydty_ as a proper name, too. The correspondence between _dmŷdty_ and Prakrit _bhutanaṃ_ 'creatures' proves beyond doubt that _dmydty_ is a common noun. Its meaning must be 'creatures' or 'creation', cf. Avestan _dāmidāta-_ 'created by the creator, divine being' and Middle Persian _dāmdād_ 'creation'. — Altheim posed _dmydty_ <_*dāmidātya-_, taking the latter as a derivation in _-iya-_ from _dmydt_ < _dāmidāta-_. Yet, the final _-y_ is either the Aramaic Plural ending in _-y/y'_, appended to the Iranian word in the same way as in _mzyšty'_ 'the elders' Qandahar I (then: _dmydty_ 'creatures'), or it is the Early Middle Iranian Genitive Singular ending in _-ē_ <_ahya_, as already presupposed by Andreas (then: _dmydty_ 'creation'). Both kinds of final _-y_ seem to have been more or less facultative. A plural ending is obviously missing in _'rzwš_ = _śramaṇana(ṃ)_ line 4, and the Iranian Genitive ending in _-y_ had lost its original sense as early as Aśoka's time. The latter is seen in _m'h_ 'month' Laghman II, as compared with _m'hy_ 'month' found in the Aramaeo-Iranian inscription discovered by Herzfeld at the tomb of Darius in Naqš-e Rostam near Persepolis, and dating from the middle of the third century B.C.

Line 3: All previous authors, except Herzfeld, agreed in reading _ngrwt'_, and in deriving this from Aramaic _ngr_ 'carpenter'. If this were right, then the meaning of the word would be 'carving (in wood)', as suspected by Barnett and Cowley, or, perhaps, 'carpentry'. To escape the difficulties that arise from this, Andreas made the bold assertion that _ngrwt'_ would be an attempt to render in Aramaic the Sanskrit form of the name of Taxila, i.e., Takṣaśila, this being interpreted by the translator as a compound of _takṣan-_ 'carpenter' and _*śīla-_ 'nature' (with _ī_ !). This is certainly wrong as to the best of our knowledge, geographical names were written phonetically in the Aramaeo-Iranian texts. Since the word in question reappears in line 4, as already realized by Andreas, it cannot be anything but the translation of Prakrit _saṃpaṭipat(t)i_ 'kindliness, attention' occurring twice in the original. — It is a pity that the translation of Prakrit _bra(h)maṇa-_ 'Brahmin' is lost at the damaged end of the line. The restoration of *mgwš* 'Magian' is feasible (if so, then in the plural sense 'Magi') , but this depends on the extent to which substitutions of religious technical terms of Zoroastrian origin were adopted by the Buddhist missionaries in the West, as well as on the analysis of *'rzwš* in line 4, with which the hypothetical *mgwš* could form a pair of rhyming words.

Line 4: Barnett assumed Aramaic *'rz w šn* 'wood and ivory', and so did Cowley, whereas Andreas conjectured an Iranian ghost-word *'szwš* 'friend of the town (of Taxila)', which is rather unlikely for graphical as well as for linguistic reasons. The reading *'rzwš*, adopted by the present author, is from Altheim, who takes the word as being identical to the Nominative Singular *ərəzuš* of the Avestan proper name *ərəzu-*. The Prakrit original, however, does not favour the idea of a proper name, *'rzwš* being the translation of Prakrit *śramaṇanaṃ* 'ascetics'. Nevertheless, the connection of *'rzwš* with *ərəzu-* itself, in its primary function as an adjective, remains worthy of discussion. The latter occurs in the Gathas, where it has the meaning 'upright, sincere', by which Zoroaster qualifies himself and the pious. Admittedly, the social order and the religious conditions prevailing among the Eastern Zoroastrians in the period of the Buddhist mission are unknown, yet one might imagine that the Avestan adjective had developed into a term used for denoting a special rank or position in the religious hierarchy that could be regarded as a rough equivalent of Prakrit *śramaṇa-* — It is not impossible that *'rzwš* really is an Avestan case form, as Altheim would have it. At least one word belonging to a related social and religious sphere has preserved the Old Iranian Nominative form in *-uš*, or the Genitive form in *-auš*, even down to New Persian, namely, Avestan *drigu-* 'poor' (Nom. Sing. *driguš*), which is applied by Zoroaster to the faithful, and which survives in Middle Persian *driyōš* 'poor' and New Persian *daryōš/darwīš* 'derwish, mendicant friar'. New Persian *majūs* 'Magian, Zoroastrian priest' has a more complicated history. It is an Arabic word borrowed from Aramaic *mgš* (Plural *mgšy*', whence the Pahlavi ideogram *mwšy*' = *ēhrbad* 'priest'), cf. Jewish Aramaic *mgwš/mgwš*' and Syriac *mgwš*'. Yet, in the Aramaic language itself, the word is a loan-word from Old Persian *magu-* 'Magian' (Nom. Sing. *maguš*). See line 3, in which *mgwš* possibly has to be restored. — As to the restoration of *l-' mwhy* at the end of the line, see below.

Line 5: In Qandahar I, which is a loser rendering of the Prakrit text of Rock Edict IV, the suffixed pronoun *-why* of *'bwhy* 'his father', and of the preceding *’mwhy* ‘his mother’, hitherto attracted attention only in so far, as, in contradiction to grammatical rules, in relation to a plural subject, (viz. the people referred to by Aśoka), the singular of the pronoun is found, and this is formed incorrectly in *’mwhy* (for correct *’mh*). In the case of the Taxila inscription, which is a word-for-word translation, the question must be asked, however, as to why *-why* is there at all, as the Prakrit original *matapituṣu* does not contain any personal or possessive pronoun. The answer is that *-why* is a petrified element which, in the state of development reached at the time in question, was deprived of its original value. What is written in Aramaic script *’bwhy* ‘his father’ and *’mwhy* ‘his mother’ was read by the scribes of that period simply as Iranian *pitə* ‘father’ and *mātə* ‘mother’, without a pronoun. It is well known that the same way of writing an Iranian word is found in the Pahlavi ideogram *brh* ‘his son’ for Middle Persian *pus* ‘son’. — *hww* is not the verbal form ‘they have been’ (ANDREAS), but is the translation of Prakrit *vuḍhanaṃ* ‘the elders’. For this reason, it must be restored as *hww[yšt]* or, perhaps as *hww [yšty]* or *hww [yšty’]* with the Aramaic Plural ending *-y/y’*, cf. *mzyšty’ ’nšn* in Qandahar I, line 6. — *hww [yšt]* derives from Av. *huuōišta-* ‘the elder, the eldest’, cf. Sogdian *xwyck* ‘teacher’.

LINE 6: The formation of the determinative compound *hwptysty* ‘good obedience’ with the first member *hw-* ⇌ *hu-* ‘good’, may be due to an erroneous analysis of Prakrit *suśruṣa* ‘obedience’ as consisting of *su-* ‘good’ and **śruṣa* ‘obedience’, the latter being connected by the Aramaeo-Iranian scribes with Avestan *sraoša-*, Middle Persian *srōš* ‘obedience’. From *hwptysty* the prefix *hw-* may have been transferred to its opposite term *nštwn* ‘command’ which appears as *hwnštwn* ‘good command, Dharma’ in line 8.

LINE 7: Prakrit *añam* ‘other’ is rendered by the Aramaic Demonstrative Pronoun *zk* ‘that’. The reason for this might be found in a heterography based on the phonetical similarity between Early Middle Iranian **añe* ‘other’ and **anə* ‘that’. A similar heterography is found in late Book Pahlavi, where the ideogram *zk* is not only written for Middle Persian *ān* ‘that’, but also for *an* ‘other’ (*zky* ⇌ *anē*). Yet, a mistake by the translator is also possible. The entire line seems to have been rather enigmatic to him.—As to *bhwwrdh*, HERZFELD was astonishingly right when he wrote “it could almost be read Bahuvrihi and is apparently non-Semitic, Indian”. ANDREAS’ interpretation as ‘through his good promotion’ with Aramaic *b* ‘through’, Iranian *hu-* ‘good’ and *varda-* ‘promotion’, and Aramaic *-h* 'his', is no longer tenable. It turns out now that *bhwwrd* or *bhwwrdh*, according to where one considers the word to end, is nothing but a transcription of Prakrit *bahuvidha*, the superfluous *r* possibly being a clerical error for *y*. — One might assume that *dh* stands for Prakrit *dh*, the aspiration being noted by *h* in the same way as in the Aramaeo-Indian quotations found in the Pol-e Darunta inscription, e.g. in *'rths* ⇌ *arthasa* or *'bhysyts* ⇌ *abhisitasa*. Yet, this is by no means certain, as the *h* can also be the initial sound of the following word which, according to line 10, must be *hlkwt* 'conduct'.

LINE 8: ANDREAS' restoration of the Iranian word *hwt*[*wy*] 'lord' must now be abandoned. Qandahar I, line 8, has *hwtyr . . . yhwtr* 'has promoted and will promote' for Prakrit *vaḍhitaṃ vaḍhiśati ca yo* 'it was promoted and it will be promoted for ever', cf. *hwtyrn w yhwtlwn* Qandahar II, line 4, for *vaḍḍhitā ca vaḍḍhissaṃti ca* Pillar Edict VII. — In Taxila, the text seems to have been abridged by omission of *vaḍhiśati ca*. The Adverb *yo* 'for ever' is mistranslated through the Aramaic Relative Particle *zy*, which, in Pahlavi, is used for graphically expressing the Middle Persian Izafet Particle ī.

LINE 9: Aramaic *mr'n* 'our lord' proves now definitely to be an attempt to translate the Indian title *devānāṃpriya-* 'friend of the gods', as already suspected by BENVENISTE on the evidence offered by Qandahar I.[1]

LINE 10: *hlkwt* does not contain the Aramaic verbal form *hlkw* 'they went', as suggested by ANDREAS and ALTHEIM, but, as it translates Prakrit *caraṇaṃ* 'conduct', it must be an abstract formation in *-wt* from the Aramaic root *hlk* 'to go'.

LINE 11: As pointed out by R. DEGEN, the combination of *w* 'and' with *'p* 'and' is not found in correct Aramaic.[2]

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1. Journ. As. 1964, p. 143.
2. Zeitschr. Dtsch. Morgenl. Ges. 122 (1972), p. 289.

KASHMIRIAN TRACES OF ANCIENT OATH CEREMONIES

BY

BERNHARD KÖLVER (Kiel)

I

One of the most interesting Middle Age Sanskrit texts is Kalhaṇa's account of the history of Kashmir, the Rājataraṅgiṇī. This is not only because it has been widely considered one of the very few Sanskrit works that could properly be called historical, but also because it contains a wealth of materials bearing upon the ideas and customs current or handed down in Kashmir up to the middle of the twelfth century A.D. And when considering these customs more closely, we sometimes find them to show a state of affairs far older than the time in which the book was written would lead us to suppose. It is an instance of this that is to form the subject of the following pages.

In the report of Kalhaṇa's life time and the years immediately preceding it, the Rājataraṅgiṇī very frequently speaks of contracts. Their high number is a telling allusion to the political situation prevailing in Kashmir during those times. Due to a series of disturbances in the Central Government, the position of the feudal lords was considerably strengthened, and these lords constantly concluded treaties among themselves or with their king. Agreements of this type form the majority of attested instances, but of course reports on contracts stabilizing the relations with rulers of adjacent territories are not wanting. Now, treaties, contracts, agreements tend to be concluded in well-defined, formalized ways; innovations are slow to come in this field. I hope to show that this general fact will be borne out by the particular rite dealt with in this paper.

To seal a covenant, the Rājataraṅgiṇī mentions a custom which is referred to by a phrase containing the noun *kośa*. To judge from the number of times it is attested, it must have been fairly common. What we encounter most frequently is the expression *kośaṃ pā* 'to drink the *kośa*', and this expression, it seems to me, comes closest to what the term refers to. Thus, it is *kośaṃ pā* that I propose to start from in the following discussion. Sir Aurel STEIN, in his translation of the Rājataraṅgiṇī[1], has rendered the term with "to take an oath by sacred libation".

The ceremony seems to have been employed to give binding force to an agreement between two or several parties. The normal usage of the term can be gathered, e.g., from Rtar. 8.280:

prajihīrṣubhir urvīśaṃ pītakośaiḥ sametya taiḥ |
catuṣpañcāni varṣāni nāvāpy avasaraḥ kvacit ||

'For four or five years after they had come together and drunk the *kośa*, they, who wanted to slay the king, found no opportunity (to kill him).'

But some Rājataraṅgiṇī passages show that it was not necessarily a treaty that was sealed by the rite. Sometimes, it is not a very specific agreement that is so consecrated. See, e.g., 5.422:

tadā nigūḍharājyecchaḥ sakhyaṃ mukhyaiḥ sa mantribhiḥ |
pītakośaiḥ pravidadhe pañcabhir bhūbhaṭādibhiḥ ||

'He who had a concealed desire to rule then concluded friendship with the five chief ministers, Bhūbhaṭa etc., who had drunk the *kośa*.'

To account for the way the term is actually employed it seems useful to start with a synopsis of the contexts in which the noun *kośa* occurs.

A. *kośa* dependent upon verbs

Root *ṛ* (Causative)
    arpitakośayā (bahuvrīhi compound) 7.460
Root *kṛ*
    kośaṃ cakratur anyonyaṃ .. nṛpāḍamarau 5.326
    kṛtakośam (bahuvrīhi compound) 7.747
Root *pā*
    pītvā kośaṃ 8.2091
    pītakośa- (bahuvrīhi compound) 4.558; 5.442; 6.225; 7.492; 8.280; 1656, 2222, 2875
    (Causative)
    kośam apāyayat 7.8
    kośaṃ .. pāyitāḥ 7.459

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[1] Kalhaṇa's Rājataraṅgiṇī. A Chronicle of the Kings of Kaśmīr. Transl. .. by M. A STEIN. Vol. 1-2. [Reprint] Delhi etc. 1961. — The Sanskrit text of the Rājataraṅgiṇī [= Rtar.] is quoted from Sir Aurel STEIN's edition: Kalhaṇa's Rājataraṅgiṇī or Chronicle of the Kings of Kashmir. [Reprint] Delhi 1960.

B. *kośa* dependent upon nouns

pāna

+ root *kṛ* (Causative)
kāritāḥ kośapānaṃ te 8.3095
+ root *kṛ* — *pra* -
kośapānaṃ pracakrire 8.3006

pīthin

kośapīthin - 5.423; 6.211

saṃvid

+ root *dhā* + *vi*-
vidadhyāṃ kośasaṃvidam 7.746
+ root *smṛ*
smarantaḥ kośasaṃvidam 6.238

smaraṇa

kośādismaraṇād 7.75

The following passages mention the intention which leads to the performance of the ceremony:

kośaṃ .. kṣemāya pāyitāḥ 7.459 'for safety's sake they were induced to drink the *kośa*'

niścayam sa pītakośaḥ kṛtvā 8.1656 'when he who had drunk the *kośa* had formed the resolution..'

sakhyaṃ . . . mantribhiḥ . . . pītakośaiḥ pravidadhe 5.422 'he concluded friendship with the ministers who had drunk the *kośa*'

pītakośais taiḥ saṃdhir devyā samaṃ kṛtaḥ 6.225 'a contract was made with the queen by them who had drunk the *kośa*'

rājaputraḥ samaṃ pitrā saṃdhiṃ ninye 7.489 'the king's son (called *pītakośaḥ* in 7.492) concluded a contract with his father'

parvaguptena saṃbandhaṃ cakrire kośapīthinaḥ 5.423 'they who drank the *kośa* made an alliance with Parvagupta'

devī kośam apāyayat . . . sthātum adroheṇ (*a*) 7.8 'the queen made [them] drink the *kośa* not to stand in enmity'

sthātum apratyavasthityā vidadhyāṃ kośasaṃvidam 7.746 'I want to enter into an agreement by *kośa* not to stand in opposition'.

As these sentences show, a person or party with whom friendship, an alliance, a contract etc., is concluded, is expressed in the instrumental case, with or without *samam*. This is relevant for the syntactical interpretation of Rtar. 8.2091 *sujjinā samam | pītvā kośam.* —

In no instance does Kalhaṇa actually describe the ceremony. Thus, we have to content ourselves, for the present, with the hints scattered over the Rājataraṅgiṇī. These permit us to improve what has been shown from the above passages in two respects. Both times, we cannot be certain whether we deal with permanent characteristics of the rite, or whether Kalhaṇa means to mention a procedure somehow more intricate than that referred to in the other instances.

The *first of these additional circumstances* concerns the parties taking part in the ceremony. For from the materials attested, we cannot derive a uniform conclusion as to whether both parties to the rite took part in drinking the *kośa* or merely one. We find proof for both possibilities.

While Utkarṣa was king, his brother Harṣa asks for the following announcement to be made to Utkarṣa:

sthātum apratyavasthityā vidadhyāṃ kośasaṃvidam
'I want to enter into an agreement by *kośa* not to stand in opposition.' (7.746).

Harṣa furthermore threatens Utkarṣa with the refusal to take food.[1] Thus, he forces Utkarṣa to pretend to meet his demands:

*sa tan mithyā pratiśrutya taṃ dūtaiḥ prahitaḥ punaḥ**
kṛtakośaṃ sāntvayitvā rājā bhijyam abhojayat

*This reading from the manuscript Berlin, State Library, Ms. or. oct. 2696, should be accepted.

'When the king had wrongly promised this [and] had quietened him [i.e. Harṣa], who had made the *kośa*, through messengers who were again sent, he made [Harṣa] take food.'

In this instance, the *kośa* is quite obviously only drunk by one party to the agreement, viz., Harṣa. Quite as clear are 7.489+492 and 8.3095. Though in the last-mentioned verse there are several people drinking the *kośa*, the verse is to be included here since all who swear belong to the same party. — It looks as if some other passages ought to be added to those quoted, but the text is not quite unambiguous, and thus we had better not rely on them. —

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[1] For this custom, see, *inter alia*, E. Washburn HOPKINS: On the Hindu Custom of Dying to Redress a Grievance. In: Journal of the American Oriental Society. 21.1900, pp. 146 sqq.

The other case, viz., both parties confirm their alliance by drinking the *kośa*, is attested just as plainly. This is so, e.g., in 5.326: *kośaṃ cakratur anyonyaṃ .. nṛpaḍāmarau* 'the king and the damara made a *kośa* to each other', or in 4.558 *sa cāramuḍibhūbhṛc ca pītakośau parasparam* 'he and King Aramuḍi who had mutually drunk the *kośa.*' The same state of affairs can be inferred from the combination of 7.8 with 7.75: *saṃgrāmarāja-tuṅgādīn devī kośam apāyayat .. sthātum adroheṇetaretaram* 'the queen made Saṇgrāmarāja, Tuṅga etc.. drink the *kośa* not to stand in enmity against each other.' (7.8). Saṃgrāmarāja considers this fact in 7.75 when he thinks of having Tuṅga murdered.

One possible interpretation for this duality, which is quite distinct, is this: The *kośa* is drunk by the party renouncing a right it could otherwise have claimed, or giving up a mode of proceeding that might have lain in its interest to pursue. In that case, if we have an agreement putting only one party under an obligation, only this party would submit to the ceremony, while both would take part in it if both parties were to yield some right. This view of the matter would mean that there is a rather close connection between the rite as described by Kalhaṇa and the *kośa* ordeal which we shall dwell upon below.—

The *second set of additional circumstances* is afforded by what seem at first sight to be expansions of the rite. These are attested four times, and they point into two different directions.

1. In the text of the Rājataraṅgiṇī, we hear twice that parties "making" or "drinking" the *kośa* place one foot upon a blood-sprinkled hide of an animal, while the ceremony is performed. From 5.326 we gather that they performed the rite 'with their swords', and that the animal the hide of which was used was a ram:

tato nikṣipya caraṇaṃ raktākte meṣacarmaṇi |
kośaṃ cakratur anyonyaṃ sakhaḍgau nṛpaḍāmarau ||

'Then, by placing a foot upon the blood-sprinkled hide of a ram, the king and the ḍāmara, both with [their] swords, made a *kośa* to each other.' (5.326).

athāviśaṅkinas trāsavyudāsāyasya khāśakāḥ |
raktārdrakṛtirsrastāṅghri[1] *kośapānaṃ pracakrire ||*

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[1] The variant reading °*nyastā*°, which VISHVA BANDHU has received into his text, is a weakly attested *lectio facilior*. [Cf. The Rājataraṅgiṇī of Kalhaṇa. Ed. .. by VISHVA BANDHU. Pt. 3-2. Hoshiarpur 1963/65. (Woolner Indological Series. 5.6)]

'And to dispel the fear of him who was afraid, the Khāśakas performed a drinking of the *kośa*. At this, a foot was placed upon a hide wet with blood'. (8.3006)

2. Two more passages hint at another expansion of the rite. In 8.2222, we read *vijayeśāgrataḥ pītakośo* 'he who had drunk the *kośa* before Vijayeśa.' STEIN[1] has given what is obviously the correct explanation, viz., "before the [liṅga of Śiva] Vijayeśa." Vijayeśa is repeated, in a similar context, in 7.459: .. *bhṛtyāḥ kośaṃ sarve tayā .. purastād vijayeśasya .. pāyitāḥ* 'she made all servants drink the *kośa* before Vijayeśa.'

Now, Vijayeśa is one of the most important *tīrthas* in the whole of Kashmir. It must have been considered a very holy place. This can be inferred from the fact that Vijayeśa and its Vaiśṇava counterpart, Cakrabhṛt, are the only localities within Kashmir the names of which are given in Kalhaṇa's introduction to the Rājataraṅgiṇī[2].

There seem to be only these two passages mentioning the image of a god together with the *kośa*. Nevertheless. they form the second thin line connecting the *kośa* ceremony from the Rājataraṅgiṇī with the ordeal of the same name.

Now, the problem is whether we should assume these scantily attested "expansions" to have been present at all instances of the *kośapāna* or not. From the evidence that has so far been presented, we cannot say. Of course there might have been regional differences in the rite between Kashmir and the adjoining territories. This might apply to the sword and the hide mentioned above. For the ḍāmara of the first and the Khāśakas of the second passage are not inhabitants of Kashmir proper, but come from the mountainous regions surrounding the valley. But before accepting a hypothesis of this type, we should keep in mind that inhabitants of these regions are also often reported as carrying out the "abbreviated form" of the rite. And from the word °*ādi*° in *kośādismaraṇād* (7.75) we might

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[1] Translation (see note 1, p. 132), Vol. 2, p. 171.

[2] The introduction to the Rtar. is a highly formalized piece of workmanship, delimitating Kashmir, the scene of the Rājataraṅgiṇī, by an enumeration of the *tīrthas* closest to its boundaries. From the heart of the Kahmirian territory, where "there is not a space as large as a grain of sesamum without a *tīrtha*" (1.38 *tilāṃśo 'pi na yatrāsti pṛthvyās tīrthair bahiṣkṛtaḥ ||*), only Vijayeśa and Cakrabhṛt are deemed worthy of mention in this introduction.

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infer that the ceremony did not consist of the drinking of the *kośa* alone, for in the description of the *kośa* in 7.8, which is remembered in 7.75, nothing but the *kośa* is mentioned.

I hope to show that parallels can be adduced for what we have temporarily called the expanded form of the ceremony. In view of these parallels, I think it is safe to take the "expansion" as the older form of the rite. This being so, the question whether Kashmiris also knew and practised an abbreviated form, consisting in nothing but the drinking of the *kośa*, seems a minor point which, moreover, cannot be satisfactorily cleared up from the materials the Rājataraṅgiṇī affords.—

As all sanctions, also the *kośa* ceremony does not constitute an absolute hindrance against breaking an agreement. One example for a rupture is the relation between Harṣa and his father Kalaśa, who had drunk the *kośa* (7.492). Still, an action running counter to an assertion thus fortified seems to have been considered a grievous affair. We remember that in view of the ceremony Saṃgrāmarāja feels doubtful about removing an inconvenient opponent (7.75). In another passage, we learn how by drinking the *kośa* the pretender Bhoja was caused to act against his own interests:

> *prāk pītakośo vaivaśyāt sa teśām anugo 'bhavat* |
> '[Since] he had earlier drunk the *kośa*, he followed them against [his] will.' —

One important point in the ceremony remains to be mentioned. All attested instances show that the drinking of the *kośa* aims at the regulation of future behaviour. This is notably different from the *kośa* ordeal of the Hindu law books which aims, as ordeals generally do, at establishing the truthfulness of some claim about past events. On the other hand, it is not only the rite mentioned by Kalhaṇa that is directed towards the future, but this trait is shared by other evidence to be found outside the pale of India.

II

Now, it was fairly obvious to try and connect this *kośa* with the ordeal of the same name that the Hindu law books frequently refer to. The *kośa* ordeal is thus described by JOLLY[1]:

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[1] J. JOLLY: Hindu Law and Customs. Transl. by Balakrishna GHOSH. Calcutta 1928. (Greater India Society Publication. 2.) p. 314.

'(5). The sacred libation (*kośa*). An image of a deity is bathed in water and the accused is given that water to drink; then if within a short period — three weeks at the most — any misfortune befalls him or his nearest relation, it will be taken as a proof of his guilt.'

This passage is a rather close summary of Viṣṇusmṛti XIV.

In law books, ordeals form a part of the sections concerned with evidence. Similar to oaths, they are resorted to in cases where other means of obtaining evidence fail, oaths being, broadly speaking, administered in less, and ordeals in more difficult circumstances. Now, among ordeals the *kośapāna* is the most harmless, following, e.g., immediately upon the oaths in the text of the Viṣṇusmṛti.

The connecting link between the *kośapāna* of the Rājataraṅgiṇī and that of the law books is the use of an idol, which is common to both. The man who wishes to strengthen his case by the ordeal has to drink water in which the image of that god has been bathed whom he chiefly worships. This usage is attested, e.g., by Pitāmaha[1]:

bhakto yo yasya devasya pāyayet tasya taj jalam |
samabhāve tu devānām ādityaya tu pāyayet ||

'He [i.e., the king or the judge] shall make [the accused] drink the water of that god to whom he is devoted; but if the gods are equal [i.e. if he equally worships all gods[2]], he shall make [him] drink [the water] of the Āditya.'

This calls to mind the expression *vijayeśāgrataḥ* which we encountered in the Rājataraṅgiṇī (see above, p. 136), though, Kalhaṇa's reference being so very perfunctory, we cannot be certain whether he hints at the custom Pitāmaha prescribes.

The most conspicuous difference between the ceremony according to the Rājataraṅgiṇī and the ordeal prescribed by the law books lies in their object. As has been pointed out, the Kashmirian evidence leads us to the assumption that the rite has its aim in some future action, while the ordeal seeks to establish past facts, other evidence missing. But within these same law texts, we can find traces of a function of the ordeal *not* directed towards things past. For, according to the Viṣṇusmṛti, a brāhmaṇa is not to be subjected to the regular *kośapāna:* 9.15-16[1] *na brāhmaṇasya kośaṃ dadyāt | anyatrāgāmikālasamayanibandhanakriyātaḥ* "No judge must administer the (ordeal by) sacred libation to a Brāhmaṇa, *except if it be done as a preliminary proof of his dealing fairly in some future transaction.*"[2]

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[1] No. 157 in: Die Fragmente des Pitamāha. Text u. Übersetzung v. K. SCRIBA. [Phil. Diss. Würzburg 1901.] Leipzig 1902.

[2] SCRIBA's explanation (*ibid*., p. 32).

Expressed in a more general fashion, and without the restriction to brāhmaṇas, we find an obviously related rule in Pitāmaha 37:

visrambhe sarvaśaṅkāsu saṃdhikārye tathaiva ca |
eśu kośaḥ pradātavyo nityaṃ cittaviśuddhaye ||

'In [cases of] confidence [i.e., when confidence is to be established[3]] in all [cases of] doubt, and also when a contract is to be concluded — [in all such cases] they shall always be given the *kośa* for the purification of the mind.'

This reference to things to come is the second piece of evidence linking the materials from the Rājataraṅgiṇī to those from the law books, and both instances would seem to be independent of each other. Thus, we might be justified in supposing the confinement to past or future to be a later limitation. If this is correct, then the primary function of the rite would be nothing but the solemn confirmation of an assertion.

Incidentally, the performance of the ceremony is accompanied by a peculiar circumstance, which is briefly noted in Viṣṇusmṛti 9.31-32: *na nāstikebhyaḥ kośo deyaḥ | na deśe vyādhimarakopasṛṣṭe ca* 'the *kośa* should not be given to nihilists, nor when the country is beset with disease and epidemics'. More explicit on this point are Nārada (1.332[4]) and Pitāmaha (43). How this rule is to be understood seems clear from its second part. This is obviously intended to guarantee fair treatment to a person accused, and of course one cannot confidently attribute an illness to drinking the *kośa* as long as disease is widespread in the region where it was administered. Probably the first part of the rule owes its existence to similar deliberations. For Asahāya says in his commentary to Nārada

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[1] Quoted from JOLLY's edition (Viṣṇusmṛtiḥ. The Institutes of Vishnu .. ed. by J. JOLLY. Calcutta 1881.)

[2] JOLLY's translation [The Institutes of Vishnu, transl. by J. JOLLY. Oxford 1880. (Sacred Books of the East. 7.) p. 54.] — My italics.

[3] The explanation is again due to SCRIBA (see note 1, p. 138), p.21.

[4] Nāradasmṛti [ed. by] NĀRĀYANACANDRA Smṛtitīrtha. Calcutta, n.d. (Calcutta Sanskrit College Research Series. 38.)

(1.322[1]) that a nihilist has forfeited divine assistance.

For the further treatment of the *kośa* syndrome, two points in the ordeal seem particularly relevant. (1) The ceremony is connected with water. (2) In case the accused is devoted to all gods, the water "of the Āditya" is to be drunk (Pitāmaha 157, see above, p. 138). But an *explanation* of the rite is not afforded by the law books, either. The next link in the chain leading towards a comprehension is to be found outside of India.

III

Ordeals making use of water are also found in the Avesta. E.g., in Vidēvdat 4.54, water is mentioned in this context, and it is there qualified by the epithets 'containing sulphur, containing gold, knowing' (*āpəm saokəntavaitīm zaranyāvaitīm viδuīšavaitīm*). And Yašt 12.3 has an immediate bearing upon the present problem. The preparations for an ordeal are discussed there, and we find the lines

urvaθamcit zbayemi
avi imat varō uzdātəm
avi atrəmca barəsmāca
avi pərənam vγzārayeintīm
avi raoŋnyam varaŋhəm
āzuitīmca urvaranam

> 'To the ordeal instituted here, I also call the community of friends[2], [I call them] to the fire and the sacrificial twigs, to the full [..], which lets [...] flow asunder, to the ghee of the ordeal, and to the sacrifice of plants.'

The main difficulty which this passage presents are the words *pərənam* 'full' and *vīγzārayeintīm* 'letting flow asunder'. Grammatically, both are accusative singular of feminine gender. What we lack is, (1) the noun they refer to, which should also be a feminine accusative singular, and (2) the direct object of the causative 'letting flow asunder'. For (1), BARTHOLOMAE[3] has supplied "palm of the hand", LOMMEL[4], "bowl".

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1. Quoted in: The Minor Law-Books. Transl. by J. JOLLY. Vol. 1. Oxford 1889. (Sacred Books of the East. 33.) p. 117.
2. Cf. the discussion in H. P. SCHMIDT: Vedisch vratá und awestisch urvăta. Hamburg 1958. (Alt-und Neu-Indische Studien. 9.) p. 128.
3. Cf. Chr. BARTHOLOMAE: Altiranisches Wörterbuch. Strassburg 1900. column 895.
4. Cf. Die Yäšts des Awesta übers. . . v. H. LOMMEL. Göttingen, Leipzig 1927. (Quellen der Religionsgeschichte. 15) p. 99.

I think it is more promising to start with the second 'defect', the missing direct object. In this, we can summon assistance from the Rigveda. For the corresponding verb in Old Indian, *kṣar*, has *soma* as its subject in very many instances, and for the compound *kṣar* + *vi*-, which is what we have in the Avesta passage, this is the case in all instances but one[1]. Thus, for the Avestan causative of the same verb, we may be justified in supplying the missing direct object by *soma*. Accepting this, we have the advantage of being able to do full justice to the fact that the Avestan text after all does present us with a causative, a fact which is ignored, e.g., in LOMMEL's translation "to the full, overflowing (bowl)"[2]. And if we translate the causative as causative, it seems even more probable that LOMMEL's attempt to take *bowl* as the missing referent of *pərənam* etc. is correct. For LÜDERS has shown[3] how *soma*, after passing through a sieve, flows into a vessel which bears the name *kośa*. Thus, it is an Avestan correspondence to *kośa* which might well be the missing accusative singular in Yašt 12.3.

What we have derived from this excursion is the connection between ordeals and *soma* and *kośa*. By this circumstance, we can avail ourselves of new strains of evidence in our attempt to explain the expression *kośaṃ pā*. And for this new evidence we will have to return to India.

IV

As has been pointed out, *soma* and *kośa* appear in the same context in many Vedic passages, since *kośa* is the name of the vessel holding the filtered *soma*[4]. Again, the relations between water on the one hand and the rites known from the Rājataraṅgiṇī and the law books on the other have been demonstrated above. Thus, the attempt seems justified to explain the ceremony by a connection of these two strains. The Vedic *kośa* syndrome has been treated by LÜDERS in detail[5]; thus, a greatly abridged account will be sufficient for the present purpose.

In Vedic texts, the *kośa* often occurs with the epithet *hiraṇyáya* 'golden', not only because of the purifying virtues of gold (of. *āpəm .. zaranyāvaitīm* from Vd. 4.54, quoted above, p. 140), but also because the earthly *kośa* of the ritual symbolically represents the heavenly *kośa*, i.e., the vessel that holds *soma* in heaven, and from which the four heavenly streams issue.

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[1] Cf. RV 9, 21, 3; 9, 39, 4; 9, 85, 5. — The exception is *adhi-vi-kṣar* in RV 1, 164, 42.

[2] "zur vollen überfliessenden (Schale)"

[3] Cf. H. LÜDERS: Varuṇa. Vol. 2. Göttingen 1959. pp. 378 sq.

[4] In the following, I am heavily indebted to LÜDER's account in his book *Varuṇa* (see preceding note).

[5] H. LÜDERS: Varuṇa, Vol. 2. (see note 3), pp. 375-384.

Now, in the Rigveda, Soma in quite a few instances has an ethical function. Some passages connect Soma with Varuṇa, the God of True Speech; same even identify them. Thus, in RV 9, 77, 5, Soma is *mahā́n ádabdho váruṇo hurúg yate* 'great, not deceived Varuṇa for him who goes astray'; similar assertions are found in 9, 73, 3; 9, 95, 4; 10, 167, 3. Just as Varuṇa, Soma also has his seat in the highest heaven, in *ṛtásya yóni-*[1].

But Soma is also called *guardian of Right* and *protector from evil* in passages which do not mention Varuṇa. He is referred to as 'knowing all' (*viśvavid-* 9, 27, 3; 9, 64, 7; 9, 86, 29 etc.); as 'guardian of the *ṛtá*' (*gopā́-ṛtásya* 9, 48, 4; 9, 73, 8); he 'bears the *ṛtá* (*ṛtáṃ bharat* 9, 97, 24), 'he persecutes liars, protects from rākṣasas, the watchful' (*véti druhó rakṣásaḥ pāti jā́gṛviḥ* 9, 71, 1). And in 7, 104, 12, an oath is mentioned, Soma fighting against what is Untrue:

suvijñānáṃ cikitúṣe jánāya
sác cā́sac ca vácasī paspṛdhāte
táyor yát satyáṃ yatarád ṛ́jīyas
tád ít sómo 'vati hánty ā́sat

'It is easy to know for someone who knows: True and Untrue Speech fight against each other. Which of both is the true, which is the more just, that [speech] *soma* favours; unjust [speech] he smites.' Cf. also 7, 104, 13.

In this stanza, the connection between Soma and True Speech is expressed quite clearly. Now, Schlerath[2], basing his argument upon some instances from the Atharvaveda, has interpreted an oath invoking Soma as a relic of an old ordeal or oath to plants. In support of this, one might feel inclined to quote *barəsmāca* from Yašt 12.3 (see above, p. 140). But I think the oath to Soma could as well be explained by reference to the place where Soma is found. From his heavenly abode and his ethical functions we might infer an identification of Soma with Varuṇa. (This

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1. H. Lüders: Varuṇa. Vol. 1. Göttingen 1961. pp. 224 sq.
2. Cf. B. Schlerath: Das Königtum im Rig- und Atharvaveda. Wiesbaden 1960. (Abhandlungen für die Kunde des Morgenlandes. 33, 3.) p. 154.

would be supported by the occasional identification of Soma with Sūrya, the connecting link again being their mutual abode in heaven.) In that case, an oath to Soma would be an oath to water.

A few minor circumstances seem to point into this direction. First, the water used for the administration of the oath is called *zaranyāvat* 'golden' in one of the Avestan passages cited on p. 140. This tallies with *hiraṇyáya* 'golden', which is used as a vedic attribute to *kośa*. Then, in the *kośa* ordeal of the law books, the god invoked expresses his decision on the case by sending harm or disease to him who offends against Truth. Sending disease to the Untrue is a trait typical of Varuṇa. Thirdly, only if we accept the identification Soma : Varuṇa as underlying the *kośa* syndrome, we can understand why Pitāmaha ordains that a person who is devoted to all gods should drink the water "of the Āditya" (above p. 138). Whomsoever Pitāmaha may have meant by the appellation *āditya* — it is most suggestive that the term occurs in this context. And when we remember that Mitra and Varuṇa, the gods Contract and True Speech, are the two chief Ādityas, then this coincidence seems altogether too significant to be considered fortuitous.

V

In this way the *kośa*, the vessel holding Soma, has come to be included in the sphere of oaths and ordeals. The expression *kośaṃ pā* probably refers to this association. On this theory, the syntactical junction of the words also finds an easy explanation. It is to be understood as an instance of an abbreviated cognate object; *kośaṃ pā* is 'to drink [the drink from] the *kośa*'[1]. By drinking the *kośa*, he who swears invokes Truth-protecting Soma to judge on the truth of his intention or claims.

VI

We still have to account for the circumstances attending upon the ceremony, which are mentioned in the Rājataraṅgiṇī.

Rtar. 5.326 reports how the king and the ḍāmara perform the *kośapāna*

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[1] Cf. E. SCHWYZER and A. DEBRUNNER: Griechische Grammatik. Vol. 2. München 1950. (Handbuch der Altertumswissenschaft.) p. 71. — Similar evidence from Sanskrit is available in C. GAEDICKE's book, Der Akkusativ im Veda. Breslau 1880. pp. 161 sqq.

'with their swords' (*sakhaḍgau*). An oath by weapons the law books prescribe for kṣatriyas; cf., e.g., Mānavadharmaśāstra 8.113:

> *satyena śāpayed vipraṃ kṣatriyaṃ vāhanāyudhaih |*
>
> 'He [i.e., the judge] shall make the brāhmaṇa swear to Truth, the kṣatriya to [his] chariot and [his] weapons.'

This custom is not confined to India, but also attested in Greece: cf. Euripides, Phoinissai 1677 *ístō sídēros hórkión té moi ksíphos* 'my iron and sword shall be [my] testimonial'. Similarly, Aeschylus, Theb. 529.

And finally, the Rājataraṅgiṇī mentions how, while swearing, the parties to a contract place a foot onto the blood-sprinkled hide of an animal, the animal being but once specified as a ram. The closest parallel again seems to occur in Classical Antiquity[1]. 'To conclude a binding treaty' is, in Greek, expressed by the words *hórkia pistà tameîn* SCHWYZER[2]. again explains this term as an abbreviated instance of the cognate object, standing for *horkíōn pistôn tomēn tameîn* 'to cut the cut for contracts solemnly sworn to'. And what the cutting refers to can be gathered even from earliest Greek literature. In Homer's Iliad, the passage 3.292ff. mentions how a convenant is made between Greeks and Trojans. In this ceremony, lambs are sacrificed, and their blood is allowed to seep into the earth.

> *..kaì apò stomákhous arnôn táme nēléi khalkôi.*
> *kaì toùs mèn katéthēken epì khthonòs aspaírontas thumoû deuoménous.*
>
> '.. and with the remorseless ore he [Agamemnôn] cut the throats of the lambs, and the struggling [lambs] who lacked the vital spirit he laid upon the earth.'

Almost identical with the first line of this passage is Iliad 19.266, the only difference being that the animal whose sacrifice is mentioned there is a boar (*kápros*).

A similar custom seems to have been observed in Rome. In the double execration that occurs in the text of the Roman historian Livy, we read .. *ut eum ita Iuppiter feriat quemadmodum a fetialibus porcus feriatur* 'that Iuppiter kill him just as the pig is killed by the Fetial priests.[3]

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[1] These parallels are quoted by LÜDERS (Varuṇa. Vol. 2. p. 665), but there they are not applied to our case.

[2] Cf. SCHWYZER — DEBRUNNER (note 1, p. 143), p. 76.

[3] LÜDERS quotes similar passages: see note 1.

Although Kalhaṇa nowhere expressly mentions that an animal is actually slaughtered, he still seems to hint at it. Otherwise, how should we explain *raktākta-* 'smeared with blood' (Rtar. 5.326) and *raktārdra-* 'wet with blood' (Rtar. 8.3006), both being epithets of the animal's hide employed in the ceremony?

What seems to be common to all the cases cited is that the blood of a head of small livestock was required for the ceremony. Considering the briefness of the indications the Kashmirian poet furnishes us with, I think it quite possible that slaughtering the animal actually formed part of the rite as he attests it. By slaughtering the animal, those who enter into some agreement invoke the fate of the animal upon themselves in case they violate the contract.

VII

We have seen how an idiomatic expression attested in a Middle Age Sanskrit text has preserved remains of a custom that was prevalent in Indo-Iranian times; we have seen how scattered and isolated relics of this ceremony find their parallels in even greater remoteness of time and place. Doubtless it is no mere accident that it is the ritual of an oath or ordeal which we find so extraordinarily persistent. It is precisely this tenaciousness that characterizes relations for the protection of which a god is invoked. We feel reminded of the words of K. LORENZ, the ecologist[1]:

"Oaths do not bind, contracts are not valid, unless those who enter into them have a common ground of inviolable, ritualized custom, the infringement of which is attended by magical fear of annihilation."

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[1] K. LORENZ: Das sogenannte Böse. Wien 1963, p. 117.

"KṢATRIYAIZATION" AND SOCIAL CHANGE IN POST-MEDIEVAL ORISSA*

BY

HERMANN KULKE (Heidelberg)

In his famous book "Religion and Society among the Coorgs of South India" M. N. SRINIVAS in 1952, for the first time, used the term "sanskritization" in a way which has very much influenced further social anthropological research when he states: "The caste system is far from a rigid system in which the position of each component caste is fixed for all time. Movement has always been possible, and especially so in the middle regions of the hierarchy. A low caste was able, in a generation or two, to rise to a higher position in the hierarchy by adopting vegetarianism and teetotalism, and by Sanskritizing its ritual and pantheon. In short, it took over, as far as possible, the customs, rites and beliefs of the Brahmins and the adoption of the Brahminic way of life by a low caste seems to have been frequent, though theoretically forbidden. This process has been called 'Sanskritization' in this book, in preference to 'Brahminization', as certain Vedic rites are confined to Brahmins and the two other 'twice-born' castes. The tendency of the lower castes to imitate the higher has been a powerful factor in the spread of Sanskritic ritual and customs, and in the achievement of a certain amount of cultural uniformity not only throughout the caste scale, but over the entire length and breadth of India."[1]

From a historical and indological point of view one may feel that the main merit of Srinivas' theory lies in the fact that it created a theoretical framework which helped to link the research on the "little communities" of Indian villages with the traditional field of Indology, the Sanskritic All India tradition or to use another controversial term: with the "great tradition" of India. The term "Sanskritization" thus became a helpful transmission-belt between historical oriented and social anthropological research. It also provided a sound basis for the discussion to what extent values were, and still are, influencing social change in India. Srinivas' theory also gave a further impetus to destroy the myth of India's village being an "isolated whole."[1]

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* This article has also been published in *Changing India* — Studies in Honour of Ghurye, Bombay: Popular Prakashan, 1976.

[1] M. N. Srinivas, Religion and Society among the Coorgs of South India, Oxford 1952, 2nd ed. 1965, p. 30.

It is not the aim of this paper to enter into a detailed discussion of the usefulness of the term Sanskritization. The aim is to make only a few remarks to use the terms Sanskritization and Kṣatriyaization in its socio-functional context.

One of the main difficulties to accept and to use this term is caused by the fact that it names "pars pro toto" a complex process after only one of its aspects, i.e., the language. The term, therefore, was bound to become as controversial as similar terms, i.e., "Aryanization"[2], "Hinduization", and "Brahmanization" which are derived from the aspects of race, religion, and caste respectively. The difficulties which originate from the necessity to subsume a complex process under the name of one of its aspects are multiplied by the fact that even none of these different terms is sufficient to describe fully only the corresponding aspects; e.g., Sanskrit has never been the only medium through which Sanskritization was influenced. In various areas of India the local languages sometimes were far more important in the process of Sanskritization.[3] The agents of "Brahmanization" on the other hand were not always Brahmins and many of the habits of the Brahmins differed from time to time and area to area. Lastly "the word (Hinduization) suggests that many of the lower castes are not Hindus which is not true."[4]

Despite these contradictions and other difficulties with the *term* "Sanskritization", however, the relevance of the *process* itself for the social change in India (whether medieval or contemporary) has not seriously been challenged by scholars, especially if we take "Westernization" as a complement rather than a dichotomic antithesis. The usefulness of the theoretical framework has even increased from the suggestions and criticisms of various scholars, including Srinivas himself. Three of them, at least, are important for this paper. In 1955 an important contribution was made by MC KIM MARRIOT who emphasized that "while elements of the great tradition have become parts of local festivals, they do not appear to have entered village festival custom 'at the expense of'[1] much that is or was the little tradition".[2] In 1959 HARPER in an article, "A Hindu Village Pantheon",[3] came to the conclusion that the distinction between Sanskritic and non-Sanskritic village deities could be *functional* rather than historical.

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[1] Mc Kim Marriot, "Little communities in the indigenous civilisation"; in: Mc Kim Marriot, *Village India*, Chicago, 1955, pp. 174-176. — M. N. Srinivas and T. M. Shah, "The Myth of the Self-sufficiency of the Indian Village"; in: *Economic Weekly*, 12 (1960) 1375-78.

[2] In his book "*A History of South India*" K. A. Nilakanta Sastri wrote a separate chapter about this process in the early phase of South Indian history under the headline "The Dawn of History: Aryanization." (2nd ed. Madras, 1958, pp. 65-98).

[3] J. F. Staal "Sanskrit and Sanskritization"; in: *The Journal of Asian Studies* 22 (1962/63) 261-275.

[4] A. P. Barnabas, "Sanskritization"; in: *Economic Weekly* XIII, 15 (1961) p. 613.

The third point to be mentioned here concerns the "Brahmanical model" of Sanskritization. After Srinivas had been criticized by various scholars, he frankly admitted in 1966: "I now realize that in both my book on Coorg religion and my 'Note on Sanskritization and Westernization', I emphasized unduly the Brahmanical model of Sanskritization and ignored the other models — Kshatriya, Vaishya, and Shūdra."[4] SRINIVAS then goes on to refer to the respective studies done by D. F. POKOCK and by MILTON SINGER.[5] They stress the Kṣatriya model of Sanskritization (or "Rājputization").[6] In connection with social mobility in pre-British India SRINIVAS stressed the fluidity of the political system. He then turns "briefly to a secondary source of mobility in that system — the king or other acknowledged political head of an area. The latter had the power to promote or demote castes inhabiting his kingdom. The Maharaja of Cochin, for instance, had the power to raise the rank of castes in his kingdom, and the final expulsion of anyone from caste required his sanction."[1] Referring to H. J. MAYNARD's study on the "Influence of the Indian king upon the growth of caste"[2] he gives two possible reasons why rājas or zamindars promoted the status of a caste-support during war and payment for the permission to wear the sacred thread.

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[1] "The lower castes have a tendency to take over the customs and rites of the higher castes, and this ensures the spread of Sanskritic cultural and ritual forms at the expense of others." M. N. Srinivas, *Religion and Society among the Coorgs of South India*, 2nd ed., London, 1965, p. 209.

[2] Mc Kim Marriot, op. cit., p. 196.

[3] In: *South-western Journal of Anthropology*, 15 (1959), 227-234. Quoted by Staal, op. cit. p. 264.

[4] M. N. Srinivas, *Social Change in Modern India*: University of California Press, Berkeley and Los Angeles, 1966, p. 7.

[5] D. F. Pokock, "The Movement of Castes"; in: *Man*, 1955, 71-72. — M. Singer, "Social Organisation of Indian Civilisation"; in: *Diogenes*, 45 (1964), 84-119.

[6] Surajit Sinha, "State Formation and Rajput Myth in Tribal Central India"; in: *Man in India*, 42 (1962), p. 35.

In 1963 S. K. SRIVASTAVA in an article on "The process of Desanskritization in Village India" gives an interesting example of how both lower castes and even Brāhmaṇas in rural Agra are "kṣatriyaizing" their way of life, due to the dominating position of Kṣatriya groups. "When the Brahmins became the land-owning class or the zamindars, they tried to imitate the Kṣatriya groups, in order to acquire the status of the landlord rather than of the Brahmin priest."[3]

So far the process of Kṣatriyaization has largely been considered as a process of social and cultural change following the "Kṣatriya-model" thus being a complementary process to Sanskritization of the "Brahmin model". The term Kṣatriyaization, however, should not be confined to those cases of Sanskritization where other castes are merely imitating the Kṣatriya way of life. The term should be used in its functional sense rather than in counting Kṣatriya rites and status symbols adopted by other castes. In its functional sense Kṣatriyaization could be called social change "from above" which was initiated in tribal areas by the "Kṣatriyas", i.e., Zamindars, chiefs, or rājas to strengthen their claims to legitimacy in the society and to broaden the basis of their economic and political power.

In the following pages I shall try to illustrate this hypothesis by a few examples which I came across in Orissa in 1970/71 while doing research on the political aspect of the Jagannātha cult in Orissa. Since the historical data are mainly taken from the Moghul and Maratha period in Orissa I shall use the terms according to which B. COHN analytically differentiates the four levels of the political system in eighteenth century India: a) the imperial, b) the secondary (successor states), c) the regional, and d) the local[1]. After the final destruction of the last independent Hindu empire of Orissa in 1568 A.D., as far as Orissa is concerned, the four corresponding levels would be: a) the Moghuls (followed by the Marathas from 1751-1803), b) the Nawabs of Bengal (followed by the Bhonslas of Nagpur), c) the Moghul and Marathas Subahdars, respectively, and d) the rājas and local chiefs of the Garhjāt (Gaḍajāta) Māhāl or Feudatory States of Orissa.

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[1] M. N. Srinivas, 1966, op. cit., p. 41.

[2] In: *Journal of the Panjab Historical Society*, Vol. 6, p. 93.

[3] S. K. Srivastava., "The process of Desanskritization in Village India"; in: Bala Ratnam (ed.), *Anthropology on the March*, Madras, 1963, p. 266. It is astonishing, however, that Srivastava takes the Kṣatriyaization of certain aspects of the life of the Brāhmaṇas for a case of Desanskritization, an assumption which is only possible if we identify the Brāhmaṇa tradition with the Sanskritic "great tradition" of India.

The peculiar political situation of post-sixteenth century Orissa is based on the existence of the Rājas of Khurda/Puri who had been recognized by Rāja Mān Singh, Akbar's famous general, as the successor of the last Hindu dynasty in Southern Orissa. Their political status was that of a rāja of the regional level, thus being in direct competition with the Moghul and Maratha Subahdars in Cuttack. Consequently, during the end of the Moghul rule in Orissa and finally under the Marathas, the power of the Khurda Rājas was reduced to the political status of the local level. Regarding their legitimacy in the traditional hierarchy, however, they were recognized throughout this period by most of the Garhjāt rājas as the legitimate political power of the secondary level.

This high estimation of the Khurda-Rājas was, and still is, a direct result of their relationship with the cult of Jagannātha and his temple in Puri. This temple was at the time of its construction (12th century) the largest of the whole of India.[2] Its famous Jagannātha trinity which was strongly influenced by the dynastic iṣṭadevatā cult of the Gaṅgas and by tribal cults[3] even today, annually, draws easily a million pilgrims to the town. Under the Gaṅgas and Sūryavaṃśa dynasties (ca. 1112-1540/68) Jagannātha became the state deity (rāṣṭradevatā) of the powerful empire of Orissa. King Anaṅgabhīma III (1211-1238) and Dhānudeva II (1306-1328) in inscriptions and the Mādalā Pāñji (the temple chronicle of Puri) were called rāutta (viceroy) who were ruling Orissa under the sāmrājya (universal sovereignty) of Jagannātha[4]. The Mādalā Pāñji describes how kings of these dynasties were legitimising their tax collections and their actions against the priest of Puri with the "will" of Jagannātha[1]. This political-ideological aspect of the Jagannātha cult reached its culmination under the kings of the Sūryavaṃśa (1435-1540) who threatened their opponents that any resistance against them will be a treacherous attack (droha) on Jagannātha[2]. The kings of the Gaṅga and Sūryavaṃśa dynasties seem to have had "monopolized" the Jagannātha cult in the religious and political centers of their dynasties: Puri and Cuttack. Despite the enormous building activities of both the dynasties all over Orissa, up to the late 15th century we have definite proof of only one Jagannātha temple outside Puri, in Cuttack[3].

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[1] B. Cohn, "Political systems in the eighteenth century India: The Banaras Region"; in: J. American Oriental Society, 82 (1962), 312-320.

[2] G. S. Ghurye, *Religious Consciousness;* Popular Prakashan, Bombay, 1965, pp. 333-337.

[3] H. Kulke, "Some Remarks about the Jagannātha Trinity", in: Herbert Härtel, *Indologentagung* 1971, Wiesbaden, 1973.

[4] *Mādalā Pāñji*, ed. by A. B. Mohanti, Bhubaneswar, 2nd ed., 1969, p. 28 and 49.

It is one of the least known but most striking facts in the development of the political aspect of the Jagannātha cult that only after the collapse of the central power (1540/68) which had "monopolized" the Jagannātha cult, this cult spread to the capitals of the Garhjāt states in Orissa. In most of these cases the independence of the local Garhjāt states from the regional power after 1540/68 coincided with the establishment of the Jagannātha temples in the capitals of these states. The spread of the Jagannātha cult in these Garhjāt states and especially the construction of numerous Jagannātha temples cannot only be explained by Caitanya's influence. The sequence of events was 1) collapse of the central power which had "monopolized" the Jagannātha cult 2) the former Sāmanta Rājas in the Garhjāt states became independent 3) construction of Jagannātha temples in the new capitals. Under the Gaṅga and Sūryavaṃśa kings the Jagannātha cult had grown into a symbol of Hindu kingship and royal authority in Orissa. The construction of Jagannātha temples in the Garhjāt states of Orissa (e.g., Mayurbhanj, Sambalpur and Keonjhar) therefore, has to be regarded also as a symbolic declaration of independence.

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[1] D.C. Sircar, "Two Liṅgarāja Temple Inscriptions"; in: *Indian Culture*, 6 (1939) p. 72.— D. C. Sircar, "Gaṅga Bhānudeva II and Puruṣottama-Jagannātha"; in: *The Kalinga Historical Research Society*, 1 (1946) 251-242. — *Mādalā Pāñji*, p. 27. P. Mukherjee, *The history of the Gajapati kings of Orissa and their successors;* Calcutta, 1953, p.

[2] Another good example is known from the Jagannātha temple inscription of Govinda Vidhyādhara, who was a successor of the Sūryavaṃśa. "The kings of Garhjāt (Feudatory States of Orissa) will obey. *He who violates this order rebels against Jagannātha.*" Quoted by R. D. Banerji, *History of Orissa*, Calcutta, 1930, Vol. I, p. 340.

[3] There was a slight "liberalization" of this policy under Puruṣottama and Pratāparudra in the late 15th and early 16th century. Under Pratāparudra (1497-1540) this change was mainly due to the influence of Caitanya.

Most of the existing Jagannātha temples in the capitals of the Garhjāt states of Orissa, however, were constructed during the British period, mainly in the second part of the 19th century[1]. This activity of the feudatory rājas in the 19th century finds its most obvious expression in those princely states whose rājas constructed entirely new capitals with a new Jagannātha temple and palace in the center (e.g., Daspalla, Khandpara, Baramba, Tigeria and Athgarh). These buildings, whose construction meant an enormous tax burden and (up to 1860) an exploitation of forced labour (beṭhi), indicate a definite change in the ideological basis of legitimation of the rajās in the tribal hinterland of Orissa. Up to the early 19th century the legitimacy of suzerainty of most of these local Garhjāt rājas over the tribal hinterland was mainly based on their position in the cult of the tribal ṭhākurāṇīs, who usually had become the rāṣṭradevatās of the respective states (e.g., Bhaṭṭārikā in Baramba and Maṇināgeśvarī in Ranpur)[2]. These ṭhākurāṇīs were a direct link between the Garhjāt rājas or chiefs and the tribes. The patronage of these powerful goddesses secured the kings the support of the tribes and thereby the safety of their states since these rājas, in their wars among each other, depended on the goodwill of "their" tribes. In this period, i.e., 17th and 18th centuries, the Jagannātha cult and its temples in the capitals of the Garhjāt states were of minor importance. In the tribal areas during the Moghul and Maratha period these Hindu temples were symbols of a political (semi-) independence rather than an institution which influenced the legitimation and position of the "rāja-chiefs" *within* their tribal society.

After the immediate danger from hostile neighbours had been removed by the "Pax Britannica" (after 1803) the cult of the tribal goddess increasingly lost its central function in the ideology of these Garhjāt rulers. No longer depending on the voluntary support of the tribes, the feudal loyalties became a "burden" for the rājas and an obstacle in their efforts to be recognized by the British Government and by their feudatory rāja—"colleagues" all over India as full Hindu rājas. During the 19th century it was again the "Puri model" which influenced the feudatory rājas of

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[1] After the confiscation of Banki and Angul in 1840 and 1848, respectively, 16 states remained which were recognized as the Feudatory States of Orissa. At least in 11 capitals of these states Jagannātha temples were constructed between ca. 1850 and 1930.

[2] H. Kulke, "Religious Cults and Royal Authority — The Case of the Chiefs of Orissa." Paper read at the Third Conference of Modern South Asian Studies, Heidelberg, July 1972. (mimeogr.)

Orissa. In Orissa the Rājas of Khurda/Puri were the most excellent example of how the loss of political power could be substituted by religious authority. After the Khurda Rājas had lost Puri to the Marathas in the second part of the 18th century, Mukhunda Deva II was even deprived of his Khurda territory after a futile revolt against the British Government in 1804. Through Act IV of 1809, however, the superintendence of the Jagannātha temple was vested in the Rājas of Khurda who — since then being Rājas of Puri—in the following decades regained the pre-eminent position in the traditional hierarchy of the feudatory rājas of Orissa.

The above mentioned Kṣatriyaization (or Sanskritization according to the Kṣatriya model) "from above" was initiated mainly by the authorities of the local level of the traditional political system. The model of this Kṣatriyaization in Orissa was mainly the traditional Hindu power of the regional level, i.e. the Khurda dynasty, whose legitimation was derived from their status of being the successors of the Ṭhākur-Rājas of the Sūryavaṃśa dynasty (of the secondary level)[1]. For sociologists it is certainly not astonishing that this model was adopted by the political authorities of the local level only after their "declaration of independence" which followed the downfall of the central Hindu dynasty of Orissa, i.e., after the distance, which had seperated the imperial rājas of the late Sūryavaṃśa from their sāmanta rājas in the hilly tribal areas of Orissa, was diminished.

Under the kings of the great Hindu dynasties the adoption of their values, rites and status symbols was not only hindered through a policy of restriction (as seen in the case of Jagannātha temples outside the center) but also through the above mentioned social distance of the two levels. This situation changed rapidly after the fall of the last Hindu dynasties in 1540/68 and the growing self-assurance of the former sāmanta rājas and chiefs of this latter dynasty. The kings of the medieval central Hindu dynasties, however, had confined certain symbols of their legitimation-ideology in their centers; the Khurda Rājas, on the contrary, having lost the actual power to "monopolize" these symbols, tried to assure the support of their subordinate kings by "sharing" their position in the Jagannātha cult with their sāmanta rājas and their allies. Usually these rājas were granted certain rights in the Jagannātha cult and privileges (e.g., status symbols like a royal palaṅkis) during their visits to Puri. A sanad (charter) of Bīrakesari Deva (1737-1781/93) to the Sāmanta Rāja of Athagada in Southern Orissa is very illustrative as to how far the Khurda Rājas were allowing their subordinate kings to "share" their position in the Jagannātha cult in order to survive politically: "As you have been engaged in a very difficult task in our favour, Bakṣi Hamir Khan has been sent to Bāṇapur. You should join him and help him to accomplish the work entrusted to him on our behalf. Showing favour to you, we have appointed you as the Parīkṣā (superintendent) of the temple of Śri Jagannātha.[1]

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[1] The Rajputs were another model, after Mān Singh, Akbar's general had come to Orissa. Since that time most of the ruling families of the Garhjāt States claimed to be of Rājput origin. These spurious claims are most surprising where already an old but *local* Kṣatriya geneology was established (e.g., Bhañja dynasty of Mayurbhanj). See R. D. Banerji, "Rājput Origins in Orissa"; in: *Modern Review*, 43 (1928) 285-329. (Partly reprinted in his "*History of Orissa*", Calcutta, 1931, Vol. II, App. VI). See also Surajit Sinha, op. cit. For a functional interpretation of a "royal" South Indian legend in a Sanskrit Māhātmya see H. Kulke, "Funktionale Erklärung eines südindischen Māhātmyas. Die Legende Hiraṇyavarmans und das Leben des Cōla Königs Kulottuṅga 1"; in: *Saeculum*, 20(1969) 412-422.

No doubt, the Khurda Rājas (especially during the most dangerous 17th and 18th centuries) had encouraged Kṣatriyaization "from above" by granting special rights and status symbols to Khaṇḍāyats whose way of life often was that of tribal chiefs rather than of Hindu rājas.[2] The usual way of transmission of the Kṣatriya values, rites and status symbols, etc. from the regional level to the local level was, however, not that "from above". The adoption (in the sense of Srinivas' Sanskritization according to the "Brahmanical model") was certainly more frequent. We have already mentioned the construction of Jagannātha temples in the Garhjāt states immediately after the downfall of the central Hindu power, an evolution which has to be explained (inter alia) by the term of adoption of a status symbol which had been withheld by the central Hindu dynasty.

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[1] *Jagannātha Sthalavṛttāntamu.* Ms.D.No. 2612. Government Oriental Manuscript Library, Madras (Descr. Cat. of Telugu Mss.). The Orissa Research Project is grateful to Sri S. M. Rajaguru, Ex-Government Epigraphist Bhubaneswar, for translating this difficult Telugu Ms.

[2] T. Dalton, "Notes of a tour made in 1863-64 in the Tributory Mehals under the Commissioner of Chota Nagpur, Bonai, Gangpore, Udeypore, and Sirgooja"; in: *Journal of the Asiatic Society of Bengal*, 1865. pp. 1-31. — F. G. Bailey, *Caste and Economic Frontier. A Village in Highland Orissa;* Oxford University Press, Bombay, 1958, pp. 178-183.

The adoption of status symbols which are not mere items (e.g., an royal umbrella) but social institutions like a Hindu temple, or a Brāhmaṇa (agrahāra or Śāsana) village, however, initiated further Sanskritization both "from below" (adoption), as well as "from above" in order to create for this adopted social institution, a social context which is similar to that from where this social institution originates. In other words, the adoption by local chiefs and rājas of status symbol, rites etc. from regional rājas has to be viewed as Sanskritization "from below". Yet this Sanskritization at the local Kṣatriya level promoted or even initiated a Sanskritization below this level of the local political authorities. The reason for this subsequent Sanskritization "from above'', as already mentioned, is the simple fact that a Hindu social institution which was "imported" into a tribal area required a minimum of Hindu social context which enables this institution to survive in a tribal area. In the beginning the "economical minimum" was guaranteed by endowments granted by the local rājas, thus enabling the temple and its priests to be economically "independent". Yet at least after a few generations, the Brāhmaṇa temple priests of lower status, and their family members, were economically forced to build up their own clientele which could be found only among members of Hindu castes. This fact influenced both vertical social mobility of tribes "entering" Hindu castes as well as horizontal or spatial mobility.[1] Spatial mobility was promoted by Brāhmaṇas in tribal areas who encouraged Hindus to settle down in "their" area in order to enlarge their clientele. Even more important for our thesis is the fact that in tribal areas Brāhmaṇas, because of their own interest, tolerated or even encouraged vertical social mobility by Sanskritization of tribes in accepting the invitation to become their priests.[2]

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[1] Burton Stein, "Social mobility and medieval South Indian Hindu sects",in: J. Silverberg (ed.) *Social mobility in the caste system in India. Comparative Studies in Society and History*, Supplement III, 1968, pp. 78-94.

[2] Surajit Sinha in an article on"Vaiṣṇava influence on a tribal culture,"in: Milton Singer (ed.), *Krishna, Myth, Rites and Attitudes;* Honolulu, 1966, p. 72 describes a different aspect of this mechanism which seems to have been most important for the Sanskritization and to some extend for the spread of or even creation of castes in tribal areas: "The Vaiṣṇava gurus are, therefore, not concerned with replacing the traditional rituals of their clients, they are mainly interested in superimposing a few rituals of their own in order to make their presence as ritual specialists essential in the life of the Bhumij (-tribe). The Vaiṣṇava guru is not moved by a reformist's zeal to save the heathen souls of his clients, but he is very much interested in increasing the number of his clientele."

Thus, Brāhmaṇas who were settled by local rājas (out of their own vested interest) in tribal areas sometimes seem to have had a different attitude towards Sanskritization "from below". Whereas higher castes usually strongly opposed Sanskritization in order to protect the status quo, Brāhmaṇas sometimes depended on the success of this type of social change.

There are a few more observations which should be mentioned in connection with our reflections on post-medieval social change in tribal areas, which took place under the direct influence of ritual requirements of local political authorities. The family histories (Rājavaṃśa Itihāsa) of the Garhjāt dynasties, though mostly products of the 19th and early 20th century, nearly without any exception have preserved the tradition that the original iṣṭadevatās (family deities) of the legendary founders of the respective dynasties were *tribal* ṭhākurāṇīs. These local dynasties usually worshipped several ṭhākurāṇīs in different localities, with own "histories", and with special functions in the "royal pantheon" and its ideology.

Generally speaking there existed one "martyr-iṣṭadevatā" (a ritually killed member of the tribe which peopled the state) which represented the *primordial violent force* which was to establish the power. Most important was a powerful and dangerous tribal ṭhākurāṇī who, as rāṣṭradevatā, symbolized the aspect of *infinite power* over the state as a whole. Thirdly, there were "subsidiary" rāṣṭradevatās, respectively "temporary" iṣṭadevatās, who represented the *regional* aspect of power over a certain part or group of the state[1].

In the course of development of these dynasties the "martyr-iṣṭadevatā" usually was pushed into the background by the cult of the great tribal ṭhākurāṇī. Her temple or place of worship was usually some kilometers apart from the palace. The power (śakti) of this goddess was too strong and dangerous for the king to live right next to her. In many cases, however, the rājas had a "sanskritized" sculpture of this tribal ṭhākurāṇī constructed — in its place of origin it has the shape of an unhewn level cone —

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1. The Ex-Feudatory State of Baramba (Baḍambā) is a good example: Bhaṭṭārikā as "Great Mother" (" Bṛhad-ambā") is the powerful tribal Ṭhākurāṇī, Śabaruṇī is the tribal (Śabara) "martyr-iṣṭadevatā", and Māhākālī of Kharodgarh is the subsidiary rāṣṭradevatā. (Kharodgarh is the central village of a former independent chief. Māhākālī was his "rāṣṭradevatā"). *Baḍambā Rājavaṃśara Itihāsa*, 31-89 (Oriya Ms, in possession of Kavicandra K. Pattnaik, Cuttack).

which they set up in their palace and venerated under various names of Durgā.

This ritual change at the local level of the political system has to be regarded clearly as a case of "Sanskritization" by adoption, usually following the model of the "regional" king. However, what is quite important in connection with our hypothesis, this "metamorphosis" of the original dangerous tribal goddess into a Hindu Durgā was usually connected with the election of new priests. While the priests of the tribal goddess in her place of origin remained tribals, i.e., non-Brāhmaṇas, the priests of the "new" Hindu form of the goddess inside the fort became Brāhmaṇas (whether they were invited from outside or "created" by the rāja)[1].

This change illustrates various aspects of the hypothesis of this paper. It clearly proves the existence of one type of Sanskritization which is initiated through the ritual requirements of local rājas or chiefs. This Sanskritization which usually followed the "Kṣatriya model" of the regional rāja is either directly connected (e.g., in the case of the "metamorphosis" of tribal deities), or followed by (e.g., in the case of the foundation of a Hindu temple or a Brāhmaṇa agrahāra-village) social change which was not, so to say, the original intention of its initiator.

It is this type of Sanskritization "from above" which should be called in its functional context Kṣatriyaization rather than Brahmanization even if its agents were Brāhmaṇas. Most remarkable is the fact that this social change has to be regarded as a consequence of the ritual political ambitions of a local chief or rāja.

The above mentioned "metamorphosis" of a tribal ṭhākurānī is of some importance from another point of view. It shows that Sanskritization does not mean necessarily a change "at the expense of" local traditions. "Sanskritization does not consist in the imposition of a different system upon an old one, but the acceptance of a more distinguished or prestigious way of saying the same things."[2]

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[1] Sometimes the status of a tribe (respectively of few of its members) was promoted after "their" tribal deity had become the state deity. In this regard the Saora Daitās of Puri are well known. See G. S. Ghurye, *The Scheduled Tribes*, 2nd ed., 1959, Bombay, p. 15.

[2] L. Dumont and D. Pokock, "On the different aspects or levels in Hinduism" (critical essay on M. N. Srinivas' *Religion and Society among the Coorgs*); in: *Contributions to Indian Sociology*, III, 1959, p. 45.

One reason behind this unbroken tradition of the worship of tribal goddesses in the capitals of Garhjāt states of Orissa in the form of sanskritized rāṣṭradevatās is the fact that it was the cult of the Devī "which bridges the gulf between the folk and the elite", as G. S. GHURYE rightly observes[1]. It was mainly this Śakti cult which both represented and guaranteed the "vertical solidarity"[2] thus being a most essential condition for the legitimation of a ruler in a tribal society. Under the influence of British paramountcy this "vertical solidarity" and its cult in the form of the tribal thākurāṇī ceased to be an indispensable part of the legitimacy. The formation of a rigid caste society in and around these "royal" gaḍas in the hinterland of Orissa emphasized more and more the necessity of a "horizontal solidarity". It was in this situation that Viṣṇuism (the mythology of which contributed most of all to the Hindu theory of the divinity of the king[3]) had its strongest impact on the tribal highland of Orissa. As already mentioned above, in 11 capitals out of the 17 Ex-Feudatory States of Orissa, between 1850 and 1930, huge Jagannātha temples were constructed, not to mention various other "royal" Viṣṇu temples like those of Raghunātha, Gopinātha (Kṛṣṇa), and Baladeva.[4]

It is interesting to note that those Viṣṇu temples (and their priests) which had been built by the rājas of the Ex-Feudatory States of Orissa as symbols of their new legitimacy as Hindu Rājas are strongly affected by the abolition of the privileges of the rājas and their expropriation. Some of these temples are already in a very deplorable condition (e.g., Tigeria, Narsinghpur). On the other hand, the temples of the powerful tribal ṭhākurāṇīs and Śiva temples regain their previous dominating position. From a first, superficial observation one may suppose a process of Desanskritization or even Retribalization. However, we should bear in our mind, at least, two facts. Firstly, the tribal ṭhākurāṇīs (like Cārccikā or Bhaṭṭārikā), underwent a genuine process of Sanskritization without loosing their former identity. Through the process of Sanskritization the tribals of the surrounding area, on the other hand, have in the meantime reached a level which enables them to follow their "Sanskritized" ṭhākurāṇī. Secondly, and this seems to be most important, the above mentioned process of Desanskritization affects the ritual and social institutions of the "Kṣatriya model" which had been introduced by the Sanskritization "from above" and which had not been reached by the respective process "from below." Thus the surmised process of Desanskritization actually is a process of "Dekṣatriyaization" which seems to lead towards a "Democratization" and a more equal distribution of the ritual resources of the Hindu society.

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[1] G. S. Ghurye, *Gods and Men.* Bombay, 1962, pp. 238-263 (Chapter XIV: "Devi: Female principle bridges the gulf between the folk and the elite." Ghurye shows the importance of *patron goddesses* in the religion of the royal families of Rājasthan.

[2] M. N. Srinivas, 1966, op. cit., p. 9.

[3] V. P. Varma, *Studies in Hindu Political Thought and its Metaphysical Foundations*, Delhi, 2nd ed., 1959, pp. 217-252.

[4] e.g., Athgarh (Cuttack Dt.), Baramba, and Dhenkanal.

THE MOVEMENT FOR THE FOUNDATION OF THE BENARES HINDU UNIVERSITY

BY

JÜRGEN LÜTT (Heidelberg)

1. Introduction

The movement for the foundation of the Benares Hindu University was an important chapter in the history of education in modern India, and it was closely linked with the political events of the time. It was an effort to create a kind of education appropriate for the needs of a modern Indian nationhood. That means it had to be "national" and "modern" at the same time. Neither the existing British education nor the traditional Indian education fulfilled these requirements. While the term "modern" was easily defined, meaning western science and technology, the definition of what "national" meant, posed difficulties. When the nationalists looked for the Indian tradition and the Indian past, they were confronted with different traditions and different pasts, especially different for Hindus and for Muslims. In fact, it was in the field of education that Hindus and Muslims parted ways first. The BHU-movement has to be seen against the background of the parallel movement for the establishment of a Muslim University.[1]

Defining the term Hindu for the purpose of education also threw up difficulties and differences. The Orthodox, Reformers and Theosophists, Brahmans and non-Brahmans, moderates and Gandhiites had different ideas of what was to be the right Hindu education. The BHU-movement was closely linked with the history of the Central Hindu College of Annie Besant and Bhagavan Das, and at the end of the movement the result was not one university, but two: Benares Hindu University and Kashi Vidyapith.

Last but not least, there were the British authorities, with whom the promoters of the BHU-movement had to reckon, if not to struggle.

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[1] For details of the Muslim University movement see Gail Minault & David Lelyveld, *The Campaign for a Muslim University* 1898-1920. In: Modern Asian Studies, Cambridge vol. 8, 1974, pp. 145-189; and Francis Robinson, *Separatism among Indian Muslims. The Politics of the United Provinces' Muslims*, 1860-1923. Cambridge 1974, pp. 198 ff.

2. The problem of religious instruction

The British universities of Calcutta, Bombay and Madras, i.e. their affiliated colleges, taught western subjects, mainly English history, English literature and English law, very little science. Their main purpose was the training of Indian students for government service.

The defects of this system of education were first indicated by Sir Sayyid Ahmad Khan[1]: 1. The Indian student was alienated from his cultural roots. 2. The results of this education did not benefit the country, but merely facilitated the functioning of foreign rule. All educational projects suggested by Indians ever since, were aimed at these two points: first, the teaching of the national tradition instead of denationalisation, secondly introduction of technical knowledge which was necessary for the modernisation of India, instead of one-sided training for the British administration. In these projects it was never doubted whether the two aims were compatible.

National education was understood to mean teaching religion, history, and an Indian language as medium of instruction. The traditional educational institutions in India did not fulfil these requirements. As far as Hindu education was concerned, the pathshalas were places, where Brahmans studied Sanskrit texts, mainly ritual, in order to become priests. What Indian nationalists demanded was different: a wider public, if possible the whole population, was to be taught the "basic tenets of their religion" and the "glorious past of their country". This could not be done in an obsolete and difficult language like Sanskrit, but the student's "mother tongue", i.e. in one of the modern Indian languages (vernaculars, as they were called then).

The British institutions could not and would not fulfil these demands either: religious instruction was banned from governmental institutions following the strict religious neutrality, which the British Government had observed since the days of the East-India Company, expecially since the Mutiny of 1857/8, which was regarded as a result of the slackening of this principle. The vernaculars were declared not yet to be developed enough for imparting modern knowledge. Out of the three aspects of national education only history was taught to a certain extent, if only through textbooks mostly written by foreigners.

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[1] Details in my book *Hindu-Nationalismus in Uttar Pradeś*, 1867-1900. Stuttgart 1970, pp. 29, 32, 33; and Robinson, op. cit. 95-97.

There were British officials who were aware of the risks of the absence of religious instruction in their schools and colleges. It left an ideological vacuum which could easily be filled by undesired political substitutes. British conservatives knew very well that those who obey God usually also obey secular authorities.

Thus, on the one hand, there was danger from interference in religious affairs, on the other, danger from western "isms" as substitutes for religion. However, there was also a third possibility, wherein religion turned out to be a tricky issue for the British authorities: religion combined with politics. This danger was perhaps the gravest towards the end of the 19th century when Indian nationalism turned more and more to Hindu symbols and values. Consequently the Government ordered "that no educational institution for the instruction of youth should under any circumstances whatever, have any connection with political writings, political speeches, political assemblies or political parties".[1]

The British welcomed and encouraged private initiative in the educational field, since it relieved them of a part of the burden of educational responsibility and costs. The most active private agencies in the fields of education were the Christian missionaries. Even though Christian doctrines were taught quite openly in these missionary schools, many Indian families sent their children there, mainly because of the high standard of instruction. At the expressed wish of their parents the Indian students even attended the bible classes, though this did not mean that they ever thought of conversion.[2] Still these Christian colleges (Convent schools) were an eyesore for the more orthodox Indian circles. Therefore Hindu and Muslim colleges were founded on private initiative, where religion was part of the instruction. In the Aligarh College for instance religious instruction was compulsory: "If a boy is weak in theology his promotion is stopped, if he fails to attend the mosque five times a day fines are imposed."[3]

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1. Quoted in S.A. Wolpert, Tilak and Gokhale: *Revolution and Reform in the Making of Modern India.* Berkeley and Los Angeles 1962, p. 122.
2. *Papers regarding the Educational Conference, Allahabad, February* 1911. Calcutta 1911, p. 18. (= Selections from the Records of the Government of India. Department of Education, No. 448)
3. Ibidem, p. 18.

Religious instruction for Hindus was a problem. For Muslims and Christians the literature in question was fairly well defined and limited, whereas for Hindus it was boundless and so various and contradictory that it was difficult to formulate a religious canon which was binding for everybody. A British educational officer reports that once a Brahman student told him that he had been devoting much attention to religion, which proved to mean breathing exercises.[1] "The crux in Hinduism is that it is philosophical and ritualistic, and its practical application is difficult."[2] The Theosophists were the first who solved this problem for Hinduism.

2. Religious instruction in the Central Hindu College

When Annie Besant founded the Central Hindu College in 1898 at the suggestion and with the support of members of the Theosophical Society of Benares, their idea was of starting "a non-official educational institution where the vital defect of the official educational system, viz., the lack of provision for moral and religious training could be made good."[3] Originally they wanted to found a Theosophical College where the supposedly common tenets of all the great religions would be taught by members of the respective religions, but it turned out that only Hindus were willing to join this enterprise. Annie Besant's main supporters were the two brothers Govind Das and Bhagavan Das, members of one of the wealthiest merchant castes of Benares. Two Englishmen and three members of the Bengali community of Benares also belonged to the inner circle around Annie Besant. Together they signed a memorandum with the following two main objects for the future college:

1. To establish educational institutions, including boarding houses, which shall combine moral and religious training in accordance with the Hindu Sastras, with secular education.
2. To promote the imparting of similar religious and moral training in other educational institutions.[4]

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[1] Ibidem, p. 83.
[2] „ , p. 16.
[3] *Sanatana-Dharma.* An Elementary Text-Book of Hindu Religion and Ethics. Adyar, Madras 1939, p. VII.
[4] Ibidem, p. VIII.

The question indicated above, namely what Hinduism meant and how it could be taught, was soon felt and it was decided to compose textbooks "on the basis of which systematic instruction could be given in those principles of Hinduism (Sanatana-Dharma) which may be regarded as common to all its many sects".[1] An Outline of Religious Instruction was passed by the Board of Trustees on December 30th, 1900, and accordingly Annie Besant and Bhagavan Das drew up a textbook in the summer of 1901. Bhagavan Das provided the Sanskrit learning, Annie Besant drafted the running text of the book in English. In 1903 the Textbook had become a graduated series of three works: 1. An Advanced Text-Book of Sanatana-Dharma intended for college students, 2. An Elementary Text-Book of Sanatana-Dharma for the use of the higher and middle school classes, 3. Sanatana Dharma Catechism, which consisted of questions and answers for the use of small boys. Translations of them appeared in all major Indian languages. By 1906, about 130,000 copies altogether of the three textbooks in the original English and in the several translations as well as reprints, had gone into circulation throughout the country.[2] Other colleges were founded in Indian princely states on the pattern of the Central Hindu College: in Kashmir, Mysore, Baroda, in Rajputana and even in Hyderabad, where the textbooks of the CHC were the basis for religious instruction.

Religious instruction in the CHC was compulsory and consisted of a prayer of a quarter of an hour, of a talk about religious questions every morning and special classes on religion during the week. Sanskrit verses were dictated and explained to the students. Arundale, one of the teachers of the CHC, reported that he himself quoted from all scriptures in order to show that the same teaching existed in all religions. In the student-hostels, special lessions were given on the Bhagavadgita and on the performance of Sandhya. Arundale adds: "Teaching from text-books unconnected with religion cannot be effective. It is necessary to set up a personal ideal before young men, and moral instruction cannot do this."[3]

A considerable part of the books, half of the elementary course, one third of the advanced course, is devoted to "Ethics".[4] "Harmonious relations with others" are praised as the highest principle of ethics, and whatever leads to this is regarded as virtue, such as truthfulness and self-control. Among these virtues we also find "patriotism", the "love of one's country", and the "public spirit, caring for the nation more than for oneself".

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[1] Ibidem, p. IX.

[2] ,, , p. XVIII.

[3] Educational Conference, op. cit. p. 17.

[4] *Sanatana-Dharma.* An Elementary Text-Book. op. cit., p. 124.

Traditional interpretation and modern criticism are mixed in a peculiar way as far as the caste system is concerned. The Text-Book says:

> In the long pilgrimage of the Jivatman through myriads of births, already referred to, there are four distinctly marked stages, called of old Varna-s, or colours, and recognised in the social polity laid down by Manu as distinct social classes, or castes.
>
> These stages are universal, all Jivatman-s passing through them; the peculiarity of the Sanatana-Dharma is that it has made them the framework of its social polity. In the early days the outer caste coincided with the stages: Jivatman-s at each stage were born into bodies belonging to that stage and the whole of society was therefore contented and progressive. But in these later days, as Arjuna truly foresaw in his distress on Kuru-ksetra, varna-sakara, caste-confusion, has come on Aryavarta and her whole peninsula. Jivatman-s at each stage are being born into bodies of other stages, and hence, as surely as content and progress arose out of the harmony of elder days, do disorder and stagnation arise out of the disharmony of the present.

About the Brahman caste it says: "Caste-confusion in India has struck this caste most hardly (sic), as the degradation of the higher is always worse than that of the lower. The Sudra Jivatman in the Brahmana body is the greatest danger to the Sanatana-dharma".[1] The Advanced Text-Book says: "Nor were the divisions of castes then felt to be an injustice, as they now are when the Dharma-s of the castes are neglected, and high caste is accompanied by a feeling of pride instead of by one of responsibility and service."[2]

Such sentences could not have been to the liking of every Hindu, especially not of the Brahman establishment of U.P. None of them was represented in the leadership of the CHC, yet the CHC had come into prominence as the leading institution of modern but at the same time orthodox Hinduism in U.P. and even in the whole of India, as is shown by the wide circulation and popularity of its textbooks. The Brahman establishment must have taken exception to the fact that their domain was ruled by banyas, mlecchas and Bengalis. No wonder that these circles soon put forward their own educational projects. It was Pandit Madan Mohan Malaviya who became the leading figure and promoter for the foundation of a Hindu University in Benares.

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[1] Ibidem, p. 127.

[2] *Sanatana-Dharma.* An Advanced Text-Book of Hindu Religion and Ethics. Adyar, Madras, second edition 1967, p. 225.

4. Malaviya's project of 1905

Malaviya was then the leading politician of U.P. He had been associated with the Congress party almost from the very beginning in 1886, and he had been prominent in the so-called Hindu revival: he had preached in favour of the cause of cow protection and had been instrumental in bringing about the decision for the recognition of Hindi as an official language in 1900. Now in 1905 he put forward a prospectus for the establishment of a Hindu University.[1] This is an interesting historical document:

The prospectus begins with an analysis of India's situation: Malaviya compares India's present situation with her past and with the contemporary situation of Europe. The per-capita income of an average Indian is 1/20 of that of an Englishman and it is still sinking. Concerning education there are 94.1% illiterates in India, in U.P. even 97%, compared with 4.7% in Great Britain and 0.11% in Germany. Millions of people die every decade due to famines and diseases. Malaviya wants to know the causes of this misery. Other Indian nationalists like Dadabhai Naoroji and R. C. Dutt had answered this question by putting all blame on colonial rule: colonial exploitation drained India of her wealth. Eastern and western liberals had answered the same question by blaming India's social system for her misery. They said the cause was too much religion, and the missionaries said "the wrong religion". Malaviya has an altogether different answer: not too much religion, but too little is the cause of India's downfall. He refutes the thesis that Hinduism hampers modern development by favouring mysticism and quietism. He points to the four traditional aims of Hindu life: apart from dharma and moksha there are artha and kama. Ritual purity he equated with hygienic cleanliness. Old Indian virtues he equates with modern English terms: satya — truth; lokasamgraha — social welfare; paropakara — philanthropy; ksama — forgiveness; dhriti — fortitude.

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[1] *Prospectus of a Proposed Hindu University for the Promotion of Scientific, Technical and Artistic Education combined with Religious Instruction and Classical Culture.* Allahabad 1905. Reprinted in S.L. Dar and S. Somaskandan, *History of the Benares Hindu University*, Varanasi 1966, pp. 49-74.

Malaviya obviously takes it for granted that these values would be useful and necessary for a modern technical civilisation. Vivekananda's ethical interpretation of the Vedanta is repeated in the following sentence: "Hindu philosophy co-operates with Hindu poetry in the task of leading man into the path of righteousness, inasmuch as it teaches him that every creature around him is his own self in another guise".[1]

Like the textbooks of the CHC Malaviya's prospectus stresses "the unmolested and harmonious cooperation of mankind". But contrary to Bhagavan Das' interpretation Malaviya justifies the caste system (varnavibhaga) as a guarantee for the hereditary transfer of talents and faculties.[2] Malaviya complains that there are no teachers who could teach the people the great doctrines of truth, purity, rectitude, self-control and unselfish devotion to duty. Princes, nobility, gentry and even Brahmans do not receive a systematic Hindu education or spiritual ministration. He does not say that this never has been characteristic for Hinduism and he does not say either that a beginning has been made in the CHC.

In the proposed university Sanskrit is to be compulsory for all students as the language which transmits the great values of the past. Sanskrit shall become the language of the elite of all classes throughout India. For theologians and medical doctors Sanskrit should become the medium of instruction and daily intercourse. For the others, knowledge of elementary Sanskrit should be sufficient in order to understand religious texts and to master the vernaculars. For them the medium of instruction is to be Hindi.

"The preservation and popularisation of everything that was good and great in the ancient civilisation of India" is to be one aim of the future University, the other is scientific and technical instruction. The faculties will be those of a modern University, though the names are to be Sanskrit: Ayurveda = Medicine; Sthapata Veda = Physics and Chemistry; Gandharvaveda = Music, poetry, drama, painting, sculpture and architecture.

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[1] Dar and Somaskandan, op. cit., p. 55. Paul Hacker, *Schopenhauer und die Ethik des Hinduismus.* In: Saeculum, vol. 12, pp. 366 ff.

[2] Dar and Somaskandan, op. cit., p. 57.

One important aspect of the new university was to be her residential character. The British universities had been examining bodies. The actual teaching was done in relatively small colleges spread all over the country, which could not offer the same range of subjects as a centralised university could do.

Three months after the first circulation of this prospectus there was an assembly of various orthodox Hindu organisations under the name Sanatan Dharma Mahasabha in Allahabad in January 1906, on the occasion of the Kumbh Mela. A resolution was passed about the foundation of a Hindu University, to be called Bharativa Visvavidyalaya. It was to have three aims: 1. To train teachers of religion for the promotion and preservation of Sanatan Dharma as contained in sruti, smriti and puranas and which recognised varna and asrama. 2. Promotion of the Sanskrit language and literature. 3. Spreading of scientific and technical knowledge in Sanskrit and in the vernaculars. Only orthodox Hindus were to be accepted as students in the College of Religion, in accordance with the rules of varnasrama dharma. All the other colleges were to be open for all castes.

Malaviya's first plan was amalgamated with this scheme and at the bank of the Ganges Malaviya took a resolve to devote his life to the realisation of this project.[1] Apparently Malaviya sent this prospectus to the Government of U.P., adding in a letter: "The promoters of the scheme have taken it up as a purely educational scheme, and are sincerely anxious that it should be judged as such and not suffer by reason of any misapprehension that it has anything to do with any political movement".[2] He was steering clear of those projects of "national education" that were being discussed at the same time in Bengal in connection with the Swadeshi-Movement. Yet there was no response from the Government at that time. Only in 1908 the project was again submitted to the Lieutenant Governor of U.P. Concerning the point that the University was to be a teaching university, Sir John Hewett reacted favourably, but regarding the denominational character his answer was: "Such a university is most undesirable".[1] In this he was in accordance with the opinion of the Indian University Commission of 1902: "In the present circumstances of India we hold that while no obstacle should be placed in the way of denominational Colleges, it is important to maintain the undenominational character of the Universities."[2]

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[1] Ibidem, pp. 75-77; Confidential Letter No. 441 from Secretary to Government, U.P., to Secretary to the Government of India, dated 28th March 1911, p. 2, contained in *Judicial and Public Papers*, No. 2325, 1911, IOR.

[2] Ibidem, p. 2.

5. Annie Besant's "National University"

Two years later Annie Besant tried to launch her project of a "University of India", which had occupied her mind since the beginning of her educational activities in India. The CHC had originally been meant to be an institution embracing all religions according to the Theosophical concept. However, due to lacking support from members of other religions it became solely Hindu. With her "University of India" Annie Besant returned to her old idea of an educational institution representing all religions. Her petition for a Royal Charter for the University of India, which she sent to the Viceroy on July 27th, 1910, was not only signed by Hindus, but also by Muslims, one Buddhist, one Sikh and one Christian.[3] The enclosing letter was signed by P. C. Chatterjee and Sir Ashutosh Mookerjee, who gave the whole project an air of respectability indeed, since Sir Ashutosh was Vice-Chancellor of Calcutta University and one of the eminent personalities of Indian society in those days.

A point which had been greatly stressed in Malaviya's prospectus, namely that the university was to be a teaching university, was not taken up by Annie Besant for her project, at least for the time being, due to financial difficulties.

Annie Besant was under the impression that her petition had been forwarded to the Secretary of State in London for consideration. During her intended stay in England the next summer, in 1911, she planned to talk personally to the Secretary of State and to other important personalities of the India Office about her project. She did not know then that the

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[1] Ibidem, p. 3.

[2] Quoted in Dar and Somaskandan, op. cit., p. 44.

[3] Proceedings of the Department of Education, United Provinces, January 1911, Vol. 8698. IOR.

Viceroy had not forwarded her petition, but instead had it circulated among the various provincial governments of India asking for their opinion. Their opinions were on the whole negative, particularly that of the Government of U.P.'s, written on March 28th, 1911.[1] It said that the signatures of the petition were not representative enough to justify the name University of India or the claim for a Royal Charter; there was little chance that the necessary funds could be raised; it was more than probable that there was a desire to evade official or legal control by the use of a charter; a purely examining body was not desirable; a denominational university was bad in itself, but the proposed one would start from reactionary ideas and with inferior courses of study; her aims were politically dangerous.

As regards the last point, the Government pointed to a sentence of the petition saying "western knowledge will be used to enrich but not to distort or cripple the expanding national life". In the explanation of this sentence the Government quoted passages from certain articles in the Central Hindu College Magazine like this: "The hour of awakening India to its future possibilities has struck"; or that Mr. Tilak had "been inspiring a spirit of patriotism"; or about the Rani of Jhansi: "for her country she braved much, dared much, may she long be remembered!" Judging from phrases like these the Government of U.P. came to the conclusion that "the expanding national life" meant "the desire of the Indian student to see India united in a free government by Indians. It is possible even to go further and say the ideal is to see India governed exclusively by and for Hindus."[2] An event in the recent history of the CHC was mentioned to corroborate this suspicion: In March 1908, the principal had to be urged by the Commissioner and the Magistrate to prevent a deputation of boys of the college from going to Buxar to welcome Bipin Chandra Pal on his release from jail.

The fact that first priority was to be given to Indian philosophy, history and literature, and to seek the chief means of culture, indicated to the Government the reactionary character of the proposed university. As to the title "University of India", the Government said that such a title implied a representation of all considerable interests in the country. But in fact, "the interest most strongly represented on the proposed board is the legal interest to which eleven of the nineteen members belong".[3]

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[1] Confidential Letter, 28th March 1911, quoted above, p. 168.

[2] Ibidem, p. 6.

[3] This and the following two quotations ibidem, p. 1.

"The Muslim community is represented by three lawyers practising in Bengal and residents of that province". "The solitary Christian member is a lawyer practising in Rangoon and apparently of Parsi extraction".

We read in the Government correspondence that Sir Ashutosh Mukerji, who had signed the enclosing letter to the petition, secretly had warned Mr. Harcourt Butler against the proposals in private conversation and urged the necessity for very close Government control. Pandit Sunder Lal, former Vice-Chancellor of the Allahabad University, "the soundest Indian educationist in Northern India", had refused to sign Mrs. Besant's petition.[1]

Annie Besant did not know of the negative attitude of the governments at that time. She was under the impression that her project had good prospects of realisation. In this belief she relied more on highly placed personalities in Britain to whom she had good connections than on the British bureaucracy in India.

The first blow to her project came from the Muslims. Her three chief Muslim supporters withdrew their signatures from the petition, when the Aligarh College refused co-operation on the ground that the Muslims wished to have their own university. Such a demand had been expressed since the days of Sir Syed Ahmad Khan, but now a formal request for a charter was addressed to the Government, and a popular movement was started under the leadership of the Aga Khan.[2]

The Muslims' decision made Annie Besant's project of a "University of India" obsolete and aroused a strong wish among the Hindus to have their own university. Malaviya saw a chance for reviving his old project of 1905. Annie Besant did not give up her project altogether, but "consented" to make the petition for a "Hindu University". This would have meant that two rival petitions for a Hindu University be sent to Government. According to Annie Besant's evidence "friends on both sides counselled the Hon'ble Pandit and myself to blend our schemes".[3] Negotiations between Malaviya and Annie Besant took place in Calcutta in March 1911, and both decided to join forces. On April 8th, 1911, there was a meeting of "leading Hindus" in Allahabad. Both sides agreed on a project which differed from Annie Besant's preceding one in the following points: 1. the immediate establishment of a residential university. 2. the giving of a predominantly Hindu tone to it. 3. the inclusion of the Viceroy, the Governors and Lieutenant Governors as Governors of the University. The first and second points had been stressed by Malaviya in his first prospectus. The third point looks like an expression of Malaviya's concern of alleviating the government's fears about too little official control, although the negative response of the local governments to Annie Besant's project of 1910 was not known to the public then.

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[1] Confidential Letter from Sharp, Department of Education, Government of India, to M.C. Seton, Assistant Secretary, J. & P. Department, India Office, dated 12th October 1911, contained in J. & P. 2325, 1911, quoted above.

[2] See Minault & Lelyveld, op. cit., and Robinson, op. cit.

[3] "The University of India" in Enclosure No. 12, J. & P., 2325, 1911, quoted above.

Malaviya's agreement with Annie Besant to join forces and to amalgamate their plans on the lines indicated above soon came under pressure from his own orthodox friends. They resisted such a joint venture out of resentment, if not disgust about recent developments within the Theosophical Society of India, especially connected with the person of Annie Besant.[1]

In 1907 Annie Besant had become President of the Theosophical Society succeeding Colonel Olcott and had moved from Benares to Madras, the headquarters of the Theosophical Society. There she came more and more under the influence of Mr. Leadbeater, a Theosophist who had been notorious for his occultist and his homesexual tendencies. In the spring of 1909 Leadbeater "discovered" the "future Messias", the "coming Christ" in an eleven year old boy named Krishnamurti, called Alcyone by Leadbeater and Annie Besant. This was the beginning of the "worship of the little Hindu boy" or "JK (= Krishnamurti) worship" within the Theosophical Society. Annie Besant started claiming to have supernatural experiences and faculties. She propagated JK as a coming World Teacher, being an incarnation (avatara) of Buddha and Christ. In the winter of 1910/11 a little "group" was formed, mainly consisting of CHC staff members and students who pledged devotion, loyalty, obedience and service to Mrs. Besant. They formed in January 1911 "The Order of the Rising Sun", followed in April 1911 by "The Order of the Star in the East".

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[1] The following is based upon: Bhagavan Das, *The Central Hindu College and Mrs. Besant.* A critical examination. Benares 1913. Letter from O-Donnell, Secr. Gov. U.P., Educ. Dept. to Secretary Gov. India, Dept. Edn., dated 31st Oct., 1913, in *Proceedings of the Dept. of Education*, Feb. 1914, Confidential, vol. 9443, pp. 367 ff.; Arthur H. Nethercot, *The Last Four Lives of Annie Besant.* London 1963, pp. 157 ff.

The main opponent to these developments within the Theosophical Society and in the Central Hindu College were Bhagavan Das and his brother Govind Das. Bhagavan Das resigned as Secretary of the T. S. Bhagavan Das' break with Annie Basant over the JK cult was to have decisive results for the development of the CHC and its future incorporation into the Benares Hindu University. Towards the end of April 1911, at the height of the JK controversy, Annie Besant travelled to England with two objectives in mind: to put JK and his brother into a sound educational institution and to propagate her scheme of a Hindu University, as revised on April 11th in agreement with Malaviya. During her absence in England, resistence to her cause rose within as well as outside the T. S. and the CHC. Attacks against Annie Besant in the newspaper had started in February 1911. Among the critical organisation was the orthodox Bharat Dharma Mahamandal, which was under the patronage of the Maharaja of Darbhanga. The BDM also laid grounds for a plan for a Hindu University, with stress on the training of preachers of orthodox Hinduism. Regarding Annie Besant's project, the BDM expressed the concern that it might turn out to be a Theosophical University and that its students would be compelled to participate in the JK worship and other obscurantist activities of the "Esoteric Section of Theosophy".[1]

Similar fears were in the minds of Malaviya's orthodox friends. He was in an awkward position: On the one hand he had promised his support to Annie Besant, on the other hand he had to keep in line with his orthodox friends. His hesitation becomes evident in an utterance reported in the newspaper "The Leader" of June 1st, 1911, saying that the amalgamation of the two projects was still under consideration. He again had talks with members of the CHC in Benares on July 10th, where he raised his objections. At last on July 15th, 1911, he published a long article in "The Leader", in which he stated his decision to prepare a new constitution and to draw up a fresh petition for a charter for a Hindu University. He wrote that Annie Besant's petition and rules of management, even with the changes proposed on April 11th, did not meet the requirements of a teaching university which would belong to one denomination in particular. Yet regarding the CHC, he pleaded for its amalgamation with the future University on the grounds that it was an "avowedly Hindu institution" and had been built up largely by the donations of Hindus. Alluding to the recent events and the financial difficulties, Malaviya wrote: "Assuming that these complaints are just, in whole or in part, that can only afford reason for greater co-operation with a view to improve and strengthen the management, but not for leaving the College alone and withholding sympathy and support for it".[1] The "sympathy and support" which Malaviya here offered so generously was later revealed to mean the taking over of the CHC, depriving it of its Theosophical character and bringing it into line with his own ideas of orthodoxy.

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[1] Nethercot, op. cit., pp. 157 ff.

6. Malaviya's Revised Scheme

On the same day Malaviya published his criticism, he also published a "Revised Scheme" of the "Hindu University".[2] The main difference to the old prospectus of 1905 was: 1. Priority was to be given to science and technology. 2. The medium of instruction was to be English. 3. The interests of the Government were to be respected as far as necessary. The discussion of the past and present situation of the Hindu religion which had covered most of the old prospectus of 1905, only covered a fifth of the Revised Scheme. Malaviya's plan was economical in so far as he suggested to build on already existing institutions: The old Government Sanskrit College, founded by Jonathan Duncan in 1792, was to be the Sanskrit College of the new Hindu University, Annie Besant's CHC was to be the new College of Art and Literature. Thus only the college of science and technology was to be founded immediately, the founding of colleges of agriculture, commerce and administration had to be postponed, so had that of the college of medicine. In the last named college, Ayurvedic medicine was only to play a subsidiary role.

In spite of his efforts for economy Malaviya left no doubt about the enormous costs to be faced: at least 100 lakhs would be necessary, and he exhorted the Indian princes as well as the Hindu public to spend freely.

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[1] The Leader, July 15, 1911.

[2] "Benares Hindu University — Why it is wanted and what it aims at", Allahabad, July 1911, generally referred to as "Revised Scheme", reprinted in *Speeches and Writings of Pandit Madan Mohan Malaviya.* Madras 1919, pp. 236-268 (abridged), and in: Dar and Somaskandan, op. cit., pp. 114-156.

7. Government's change of mind

Malaviya's Revised Scheme meant considerable concessions to the Government's wishes. The rewards were soon to follow. In the late autumn of 1911 the Government signalled green light for the Hindu University. The HU was, however, only a pawn in a larger game. The real concern of the Government in London and in India were the Indian Muslims. The Muslims were not satisfied with the concessions granted to them in the Morley-Minto Reforms, and they were disappointed about the repartition of Bengal. A Muslim university was one of the boons by which the Muslim community was to be contended and saved from alienation from the Raj. Once a Muslim university was granted, a Hindu university could not be denied. The Viceroy Hardinge wrote in a confidential letter to Sir Harcourt Butler, then Education Member in the Central Government, as early as April 9, 1911: "I do not think we need bother about the Hindu University until we see the idea is making progress but that it will come there can be no doubt whatever".[1] Since then the main concern of the Government was not whether the Hindu University would come or not, but whether it would come on the Government's own terms. The three projects known in the late summer of 1911 were not yet to the Government's liking. In September 1911 the Secretary of State in London, having been pressed by Annie Besant enquired of the Viceroy about the petition which Annie Besant had submitted to the Indian Government. The Viceroy, also referring to the other two schemes, cabled back on September 16th, 1911: "We desire to inform Your Lordship that, owing to their impractical and reactionary character, we are quite unable to approve any of these three schemes."[2]

For the Government of India the question was now, who could be expected to channel the Hindu University movement into lines of their liking. Malaviya alone was not trustworthy enough, being known as one of the leading nationalist politicians of India. Malaviya was aware of this and therefore looked for personalities who would be acceptable to the Government. Thus we see that the two bargaining parties, the Government in the person of Butler on the one side and Malaviya on the other, were looking for intermediaries who would be acceptable to both sides.

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1. Hardinge to Butler, April 9, 1911, Butler Papers, Eur. Mss. F. 116/65, IOL.
2. Telegram from Viceroy to Secretary of State, dated 16th September 1911, in: *Educational Proceedings*, U.P. March 1912, No. 54, Vol. 8942, pp. 451 ff.

The two intermediaries were the Maharaja of Darbhanga and Pandit Sunder Lal. In July 1911, when Malaviya withdrew from Annie Besant's scheme, he approached Darbhanga, who then supported the proposal of the Bharat Dharma Mahamandal. However, Darbhanga was only prepared to join Malaviya under two conditions: 1. that his scheme would be acceptable to the Government, 2. that the future University could afford ample facilities for the study of Hinduism "under the auspices of the Sanatana Dharma".[1] It was decided that Darbhanga should approach the Government and ascertain its views. Darbhanga contacted Butler in August 1911. For Butler Darbhanga was the right man. He represented the landed aristocracy, a class that could be relied on by the Government as being thoroughly loyal. A class closely related to the landed aristocracy were the Indian princes and it was they who Butler chose to be the main source of funds for the University. According to Butler's wish, Darbhanga was to win the princes of India over to support the University financially. To what extent Darbhanga was Butler's tool becomes clear from a letter of Darbhanga's to Butler dated June 15, 1912: "This is a most wearisome and uphill business but after you put me to the wheel last year there is no going back and I hope you will see me through."[2]

The other intermediary was Pandit Sunder Lal, Vice-Chancellor of Allahabad University from 1906-1908, leading lawyer at the High Court of Allahabad and the "soundest Indian educationist in Northern India",[3] who had refused to sign Annie Besant's petition for a charter for her "University of India" in 1910. He was a supporter of the Congress and had been Chairman of the Reception Committee of the Allahabad Session of the Congress held in 1910. Having the confidence of the Government and nationalists alike, Malaviya asked Sunder Lal in the summer 1911 to join his movement and become Secretary of the Hindu University Society which he wanted to found. Sunder Lal, however, refused to associate himself officially with the movement unless the attitude of the Government in this matter became clearly known.[4] It was then Butler who urged Sunder Lal to accept the secretaryship of the Hindu University Society and Sunder Lal accepted.[5]

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1. Dar and Somaskandan, op., cit. p. 187.
2. Darbhanga to Butler, June 15, 1912, Butler Paper, Eur. Mss., F. 116/70, IOL.
3. Sharp to Seton, dated 12th Oct. 1911, quoted above.
4. Dar and Somaskandan, op. cit., p. 158.
5. Darbhanga to Butler, dated 8th Oct. 1911, Butler Paper, Eur. Mss., F. 116/70.

On October 10, 1911, Malaviya and Darbhanga met in Simla and Darbhanga handed over a letter to Butler, in which he referred to "the widespread movement amongst the Hindu public to establish a Hindu University on such lines as may be approved and sanctioned by the Government of India".[1] Darbhanga asked Butler to make a pronouncement as to the lines on which the Government would be prepared to support the idea of a Hindu University.

Only two days later Butler answered Darbhanga's letter, indicating "certain conditions on which the Government of India must insist as antecedent to the recognition by Government of a movement for the establishment of a Hindu University". These were[2]:

1. The Hindus should approach Government in a body as the Muhammadans did.
2. A strong, efficient and financially sound college with an adequate European staff should be the basis of the scheme.
3. The University should be a modern university, differing from the existing universities mainly in being a teaching and residential university and offering religious instruction.
4. The movement should be entirely educational.
5. There should be the same measure of Government supervision and opportunity to give advice as in the case of the proposed University of Aligarh.

In addition Butler wrote:

> I need scarcely add that it would be necessary hereafter to satisfy the Government of India and the Secretary of State as to the adequacy of the funds collected and the suitability in all particulars of the constitution of the University. The Government of India must of course reserve to itself full power in regard to all details of any scheme which they may hereafter place before the Secretary of State, whose discretion in regard to the movement and any proposals that may arise from it they cannot in any way prejudice.

On her return from England Annie Besant realised that her project had lost the race and, pressed by the internal problems of the Central Hindu

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[1] Dar and Somaskandan, op. cit., 188.

[2] Ibidem, p. 189.

College — the quarrel about the Krishnamurti-worship and the financial difficulties — she got herself persuaded by Malaviya on October 21st, 1911, to withdraw her petition and join Malaviya and Darbhanga. This decision was endorsed by the Board of Trustees of the CHC on December 24th, 1911.

Thus the first point of Butler's conditions and half of the second one were fulfilled. On December 4th, 1911, all three, Darbhanga, Malaviya, Annie Besant and in addition Sunder Lal went to Delhi to have preliminary talks with Butler. They submitted a first draft of a constitution.

8. The Fund Raising Campaign

In his "Revised Scheme" of July 15, 1911, Malaviya had told the Hindu public that the future University would cost at least one crore of Rupees (ten millions). He hoped that half of it could be collected until December, 1911, when the Prince of Wales would come for the Durbar. (The implicit hope was that the Prince of Wales would lay the foundation stone).

By that time in July 1911, Sunder Lal still had not joined the movement and Malaviya had to organise the fund raising campaign on his own.[1] He formed a deputation of 20 prominent Hindus, among them Raja Rampal Singh of Kurri Sidhauli, a landholder who patronised all issues concerning Hindu interests, and Babu Din Dayal Sharma, the secretary of the Bharat Dharma Mahamandal. This deputation started on a tour from place to place in the whole of Northern India towards the end of July 1911. In all the larger towns of Northern India the deputation succeeded in gathering huge crowds which listened to the speeches given by prominent Hindus, propagating the cause of the Hindu University.

The Hindu University thus was the third great issue which moved the Hindus to organise themselves and feel as a body and community. The two other great issues which had moved the Hindus to the same extent before, were the protection of the cow and the recognition of Hindi as an official language.[2]

By the time Darbhanga had handed over the letter to Butler on October 8th, the promised donations had nearly reached the expected figure of 25 lakhs.

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[1] A detailed account of the fund collection campaigns in *The Hindu University Society Progress Report*, Allahabad 1913. Partly reprinted in Dar and Somaskandan, op. cit., chapters VII and X.

[2] Jürgen Lütt, *Hindu Nationalismus*, op. cit., chapters II, VII and VIII.

The collection campaign went on throughout the year 1912 and a new campaign was started at the end of 1912. On November 12th, 1912, 67 lakhs had been promised and 16.8 lakhs actually had been collected.

9. The Government's conditions

According to the Government both the movements for a Muslim and a Hindu university were to run on parallel lines. In fact, they did so for one year only, from autumn 1911 to autumn 1912. In their correspondence with the Government of India the Muslims regarded three points as essential for their University: 1. the right of affiliation, 2. that the Viceroy was to be the Chancellor of the University, 3. that the word Muslim appear in the name of the University. After a detailed correspondence about these points between London and Calcutta, the Secretary of State refused all three of them. When Butler communicated the Secretary of State's decision to the Raja of Mahmudabad on August 9th, 1912,[1] sending a copy to Darbhanga, the promoters of the Muslim University were deeply disappointed and refused to accept the Government's decision. That meant the end to the Muslim University movement for the time being, and only in 1917 it was revived again.[2]

The Hindus accepted the decision, and Darbhanga in his answering letter dated October 30, 1912,[3] expressed gratitude and disappointment at the same time — gratitude for the general acceptance of the proposal to establish a Hindu University, disappointment about the refusal of the three points. The Hindus had never made affiliation a condition sine qua non. In fact it was incompatible with their emphasis on the teaching and residential character of their University. Still they realised the advantage of affiliation: it meant more donations, namely from all parts of India, instead of only from the neighbourhood of Benares. Without the right of affiliation many potential donators would rather give their money to a college or a university of their own home province, than to a university in far-away

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[1] Reprinted in Dar and Somaskandan, op. cit., pp. 213-215.

[2] Minault & Lelyveld, op. cit.

[3] Letter from the Hon'ble Maharaja Sir Rameshwar Singh Bahadur, President, Hindu University Society, to the Hon'ble Sir Harcourt Butler, Member in Charge of Education, Vice-regal Council, Simla, contained in J. & P., 2325, 1911, quoted above. Reprinted in Dar and Somaskandan, op. cit., pp. 216-220, there wrongly dated the 25th October, 1912.

Benares. The second reason was that the right of affiliation would make Benares the centre of an all-Indian network of similar educational institutions which would mould their character and aims on the pattern of Benares. No doubt, such a national university system was the aim of the promoters of the University movement, but that was as well the point least acceptable to the British: Such a national university network would have been a rival to their own governmental universities.

The points concerning the name and the Viceroy as Chancellor were important for their symbolic value: making the University more attractive and prestigious in the whole of India. About seven months later the Hindus were confronted with more conditions from the Government. They were contained in a letter from Butler dated June the second, 1913[1]:

1. That a suitable site be provided.
2. That the Central Hindu College be transferred to the University.
3. That a sum of 50 lakhs must be collected.
4. That the constitution of the University be on lines to be indicated later.
5. That a Committee, appointed for the purpose, report that the CHC is fit to be developed into a residential and teaching University.

Out of four alternative sites, the one was chosen which Malaviya had insisted upon, even though it was the most expensive one: Nagwa, just south of the city of Benares on the banks of the Ganges.

The Board of Trustees of the CHC met on February 28th, 1914, and resolved that the CHC-Association be amalgamated with the Hindu University Society. This resolution was confirmed on March 30th, 1914 and it was further resolved that the Board of Trustees of the C.H. College should cease to exist as such and all the Trustees become members of the Hindu University Society. The formal transfer of the CHC could not be managed on the 7th of June, 1914, the sixteenth anniversary of its foundation, as not all formalities had been completed. However, the HUS actually began to take over the management of the CHC in July, 1914.[2]

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[1] Reprinted in Dar and Somaskandan, op. cit., p. 230/1.

[2] Ibidem, pp. 235-247.

Regarding the third condition, the collection of fifty lakhs, the total of promised donations until March 1913 itself exceeded eight lakhs of rupees but the actual amount collected until then was only about twenty-one lakhs of rupees.[1] In order to collect the promised money, Malaviya started a new collection campaign in September 1913 through U.P. and in Calcutta. In spite of these efforts the actual collection up to the end of December 1913 stood at Rs. 2,789.533 plus the capitalised value of perpetual annuities of 1.371.428. The sum of fifty lakhs was only reached in the beginning of 1915.

More than a year after his letter of June 2nd, 1913, Butler deemed the first three conditions fulfilled, so that the time had come to indicate the lines on which the constitution was to be drawn. These lines meant a number of powers of control and intervention for the Government[2]:

A. The right of general supervision and the power to advise that such action be taken and such staff be appointed or removed as will secure the objects of the University with power if necessary to see that such advice be given effect to;

B. The right of inspection for purposes of seeing whether the standard of education is kept up sufficiently high and for other purposes;

C. The right as a special measure to appoint if necessary (as the result of such inspection or otherwise) examiners for the University Examinations who will report to the Chancellor;

D. The annual receipt of accounts.

E. The approval of the appointments of Vice-Chancellor and Provost.

F. The approval of the initial regulations etc., and of subsequent changes.

G. The approval of the incorporation of local Colleges into the University.

H. The nomination of five members to the Senate and

I. The approval of the institution of new faculties and the reservation of power to lay down the limits of expansion at any particular time.

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[1] Ibidem, p. 247.

[2] Butler to Darbhanga, July 18, 1914, J. & P., 2325, 1911, reprinted in Dar and Somaskandan, op. cit., pp. 248-51.

When the letter containing these powers of intervention became known to the public, it was received with the utmost reservation. "Public opinion was generally against the acceptance of such conditions."[1] The conditions could not be made more acceptable by the concessions made in those points which had been the reasons of refusal for the Muslims: the word "Hindu" in the name of the University was conceded. But the future University would "have no religious tests and would be open to students of all denominations as well as to Hindus. Hindu theological teaching and observances will not be compulsory for any but Hindus".[2]

In the question who was to be Chancellor, the Government decided that instead of the Viceroy, the Lieutenant Governor of U.P. was to be ex-officio Chancellor "with certain opportunities for giving advice and certain power of intervention and control".[3] (see above)

The refusal of the right of affiliation was upheld, but compensated by the right "to admit students from all parts of India". The government's conditions were such that some comments made in the newspapers went even to the extent of suggesting to refuse the conditions contained in the powers of intervention and control and to give up the plan for the university altogether. The British officials knew very well that their conditions would provoke a reaction of this sort, as can be seen from the words Meston wrote to Craddock on August 2nd, 1914: "The Hindus will kick, but will come in; Durbhunga (sic) and Malaviya have been talking too big to afford to let the thing drop now, and they will accept the terms; .."[4] One month later—the First World War had started — Butler wrote a letter in which he tried to assuage the agitated emotions.[5] The powers of intervention were, he said, only to be emergency powers and only to be used by the Governor General himself. At a meeting of the HUS it was decided to send a delegation to Butler in order to negotiate once more about the powers of intervention. Whereas the government wanted the Lieutenant Governor of U.P. to be the Chancellor, the Indian side insisted on the Governor General having this function; if that was not possible, the uni-

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1. Dar and Somaskandan, op. cit., p. 251.
2. Butler to Darbhanga, quoted above, p. 251.
3. Ibidem, p. 249.
4. Meston to Craddock, 2nd August, 1914, Meston Papers, Eur. Mss. F. 136/3, p. 160/1. IOL.
5. Dated the 22nd August, 1914, reprinted in Dar and Somaskandan, op. cit., p. 252-53.

versity should be allowed to elect the Chancellor itself and only emergency powers were to be left to the GG. The LG of U.P. as Chancellor would mean power for the provincial bureaucracy of UP. Interference was more likely to be expected from the provincial bureaucracy than from the distant central government.

In December 1914, the final decision of the government was transmitted in a letter of Butler's:[1] the university was to elect its Chancellor itself. "Ordinary powers should be exercised by the Visitor, (who was to be the LG of UP) and emergency powers by the GG".

This was how the matter stood, and on March 22nd, 1915 the BHU-Bill was introduced into the Imperial Legislative Council by Butler, on October 1, 1915, the final reading took place.

At this point, one may inquire as to whether the promoters of the Hindu University had achieved their aim. Pertaining to the first aim, that the university should be teaching and residential: it had indeed been achieved, and the BHU was the first university of its kind in India. Pertaining to the second aim, the Hindu character of the University: this had been a major topic of dispute apart from the question of the Chancellor.

The paragraph dealing with this question ran thus in its final form:

> 4. (1) The University shall, subject to the Regulations, be open to persons of all classes, castes and creeds, but provision shall be made for religious instruction and examination in Hindu religion only.
>
> (2) The Court shall have power to make Statutes providing that instruction in Hindu religion shall be compulsory in the case of Hindu students, and shall also have power to make special arrangements for the religious instruction of Jain or Sikh students from funds provided for this purose.[2]

One of the objections against this paragraph was that the word Hindu was not defined. This became relevant for the rule that only Hindus were to be members of the Court and of the Faculty of Theology. That the highest institution of the University, the Court, was to consist completely of Hindus was justified on the ground that the donators who had given their money out of religious motives had to have the guarantee that their money was administered and spent according to their wishes. The Senate as the representative body for academic affairs, was allowed to have up to one fourth of its membership composed of non-Hindus, while for the teaching staff no religious or national criteria, but only professional ones were applied. Some members of the ILC again raised their voice against a "sectarian university", an objection which had been raised since the beginning of the movement. Malaviya in his speech on March 22nd, 1915 answered with the old conservative argument: "I believe, ... instruction in the truths of religion will tend to produce men who, ... will be true to their God, their king, and their country ... where there is love of God, there will be a greater love and less hatred of man."[1]

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[1] Ibidem, pp. 264-67.

[2] The Benares Hindu University Act. Act No. XVI of 1915. Reprinted in Dar and Somaskandan, op. cit., pp. 293-315.

For Malaviya, the paragraph dealing with the Hindu character of the University was not sufficient: " ... the provision for religion has not been put in the Act in the form which I thought was best."[2]

The aim concerning the "national character" of the University had not been achieved and most concessions had to be made in this respect. The powers of control to be exercised by the government have been referred to above. An annual grant of one lakh from the government meant still greater dependence. However, there were less officials in the new university than in the existing British-Indian ones.

Another major aim had been to emphasize the natural sciences and technology. This had so far only been achieved half way, since the creation of a Faculty of Technology was postponed until a later date.

10. The laying of the foundation stone

The circumstances connected with the ceremony of the laying of the foundation stone revealed once more whose project the University really was: rather that of the Government than that of the nationalists. The Viceroy personally laid the foundation stone (on February 4, 1916).

The function was dominated by the top representatives of the Raj: apart from the Viceroy, by the Governor of Bengal and the Lieutenant Governors of the United Provinces, Bihar and Panjab, and by its staunch supporters, the Indian princes (about fourteen Maharajas). British and British-Indian troops provided "Guards of Honour", and a military band

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1. *Speeches and Writings*, op. cit., p. 270, and Dar and Somaskandan, op. cit., p. 282.
2. In his speech at the final reading on the 1st October, 1915, in *Speeches and Writings*, op. cit., p. 285, and Dar and Somaskandan, op. cit., p. 291.

played the British anthem. For the Viceroy's protection strong security measures had been taken which affected the personal life of the people in the town.[1]

In the following days several lectures were given, one of the speakers was Gandhi. He had returned from South Africa one year previously, and at Gokhale's advice had abstained from public utterances. He used the Benares celebrations to break his public silence. Addressing himself to the students among the audience he said:

> . . . do not believe that our University has become a finished product and that all the young men who are to come to the University that has yet to rise and come into existence, have also come and returned from it finished citizens of a great empire. Do not go away with any such impression and if you . . . consider for one moment that the spiritual life for which this country is noted and for which this country has no rival, can be transmitted through the lip, pray, believe me you are wrong . . .
>
> I wanted to say it is a matter of deep humiliation and shame for us that I am compelled this evening. . . to address my countrymen in a language that is foreign to me. . . I am hoping that this University will see to it that the youths who come to it will receive their instruction through the medium of their vernaculars.[2]

Thus he reminded the audience of the two points which had originally been essential for the new University: India's "spiritual life", i.e. her religion, instead of formal British education, and Hindi instead of English, but which had been sacrificed by Malaviya in his Revised Scheme of 1911, in order to please the Government. What had remained as "religious instruction" was merely a theoretical touch of religion which was "transmitted through the lip".

Gandhi then turned to the Indian princes and criticised their exhibition of jewellery: "There is no salvation for India unless you strip yourselves of this jewellery and hold it in trust for your countrymen in India". Speaking about the security measures for the Viceroy Gandhi said: "Why this distrust? Is it not better that even Lord Hardinge should die than live a living death?" Further subjects of his speech were anarchism, the dirt in Indian towns, the behaviour of British civil servants, but he could not finish his speech as the princes left "in a body", after Gandhi had been interrupted earlier by Annie Besant, but had continued with the permission of the chairman, who happened to be Darbhanga.[1] Malaviya tried to explain Gandhi's words in an apologizing manner, but he could not prevent the complete break-up of the meeting. When Malaviya heard that the British Commissioner was about to issue orders for Gandhi to leave the town the next day, he found himelf in a difficult situation. For him as a nationalist politician, it would have been embarrassing to appear on the side of the authorities against his colleague Gandhi and it was to be expected that Gandhi would not obey the order. Malaviya found a solution he persuaded Gandhi to leave the city voluntarily, which he did.

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[1] Sri Prakasa, *Annie Besant as Woman and as Leader*. Bombay 1962, p. 192. (= Bhavan's Book University, 24). Dito, Bharat Ratna Dr. Bhagavan Das. Meerut 1970, p. 54.

[2] *The Collected Works of Mahatma Gandhi*, vol. XIII, Delhi 1964, pp. 210/11.

Future battle lines of Indian politics appeared on this occasion: Malaviya and Annie Besant as moderates, Gandhi as the future leader in Indian politics.

11. Bhagavan Das' criticism

Among those who had been deeply impressed by Gandhi were Bhagavan Das and Shiva Prasad Gupta. Like Gandhi, they belonged to the Banya class and pursued a reformist and nationalist policy.

It had not been easy for Bhagavan Das to accept the transfer of "his" college to the new University. One reason for his acceptance was the fact that the CHC had financial difficulties, which had become worse after the exodus of Annie Besant and her followers in the wake of the JK-cult. The other reason was his hope, nourished by Malaviya, that the BHU would continue the traditions of the CHC. When the negotiations with the Government showed that the BHU would differ from the CHC considerably, he could have hoped that in practice much would look different than on paper. As late as 1915, Annie Besant said: "The Hindu University only widens the sphere and fields of activity of the CHC, without in any way affecting its groundwork."[2]

One and a half year after the laying of the foundation stone Bhagavan

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[1] Ibidem, pp. 215-218. For the consequences of the "Benares incident"aas expressed in letters and newspaper articles see ibidem, pp. 239-43, 563-66.

[2] Quoted in *Sanatana-Dharma*. An Elementary Text-Book, op. cit., p. XVII.

Das realised that the development did not follow his expectations, and he protested — too late and in vain. His ally was Shiva Prasad Gupta.

On August 19th, 1917 Bhagavan Das wrote an open letter to Sunder Lal, who then was Vice-Chancellor of the BHU. In this letter, which was published in the Leader, he asked some critical questions: 1. Why is there not more information for the public? (regarding the growth of the BHU). 2. How strong is the government's influence? 3. Will the new university offer improved education, spiritually and materially, or will it just be another of those government institutions, which annually produce thousands of BAs and MAs, who above all, aspire after government jobs? 4. Of which kind will the religious education be? What is being done to make Sanskrit learning more living and practical and to bring it in touch with the current affairs of the world? 5. Which curricula will lead to industrial uplift?

Bhagavan Das pointed out that since 1911, or at least in the last two years since the reading of the BHU-Bill, a clear conception should have been developed, Sunder Lal tried to answer these points on September 7th. Bhagavan Das was not satisfied, and he repeated his questions on October 7th and on October 20th. This time Sunder Lal asked Bhagavan Das in reply, why he had not raised his criticism within those bodies of the University in which he had been a member since the very beginning. As a member of the University he could have obtained the information which he had asked for in his open letters at any time.

On October, 28th, 1917 Bhagavan Das submitted a note about the organisation of the Sanskrit Department to the Faculty of Oriental Learning and Technology.[1] In a court meeting two days later, Shiva Prasad Gupta proposed a resolution saying that construction of the University buildings on the new site in Nagwa should not be started before not "all our educational requirements are fully defined".[2] In order to discuss these requirements, he asked for a special meeting of the court. Bhagavan Das demanded a full prospectus of the aims and objects of the BHU. The money collected until then was, he said, not only to be used for arts and sciences, but also for starting agricultural, technical and commercial colleges. While Malaviya favoured the immediate construction of university buildings on the new site, Bhagavan Das was of the opinion that the old buildings of the

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1. Dar and Somaskandan, op. cit., p. 484.
2. This and the following after Dar and Somaskandan, op. cit., p. 418.

CHC should be used for the time being and necessary extensions be made by the construction of cheap "kacha" houses. Malaviya, on the other hand, feared that if the university was allowed to start work at the old CHC, "it would stick to that place".

Annie Besant once more sided with Bhagavan Das. She said that too much was being expended on the machinery of education instead of on education itself. Together with Bhagavan Das, she felt she was a victim of Malaviya's policy. One day before, she was almost balloted out of the court. One of the conditions of the transfer of the CHC to the BHU-Society had been that ten members of the old Board of Trustees of the CHC were to be permanent members of the new university's court. However, in the course of the long negotiations concerning the constitution, this condition had either been forgotten or deliberately been left out. At the annual new election of a part of the court, Annie Besant would have been balloted out, and as a non-Hindu she would not have had a chance to be re-elected. Now, through a special arrangement, her membership was secured.[1]

In the same year, 1917, Bhagavan Das acted in favour of Annie Besant when she was interned by the British Government because of her political utterances and activities. Bhagavan Das presided over a large protest meeting on her behalf. At a meeting of the Court on October 30th, 1917, Shiva Prasad Gupta proposed a resolution saying that "no paid Government servant shall be appointed as the President or responsible official of any committee, sub-committee or Board under BHU".[2] Supported by Bhagavan Das yet under the impression of an overwhelming opposition, he had to withdraw his resolution. On March 10th, 1918, at a joint meeting of the Faculties of Oriental Learning and Theology Bhagavan Das announced his resignation from convenorship of the Board of Studies in Purana and Itihasa, with which he had been entrusted on the 28th of October, 1917. At the same time he resigned from the committee of the Faculty of Theology which had been asked to look after religious instruction in the Boarding Houses of the BHU. His resignations were accepted.[3] More proposals and resolutions by Shiva Prasad Gupta and Bhagavan Das were

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1. Benares Hindu University — Minutes. Vol. II. Allahabad 1918, p. 163 ff. Sri Prakasa, *Annie Besant*, op. cit., pp. 205-207.
2. Ibidem, pp. 266-269.
3 Ibidem, pp. 396.

presented to the court at the meeting of April 13th, 1918, but as both were not present, their resolutions were put aside.[1]

Bhagavan Das' and Shiva Prasad Gupta's criticisms had now developed into a real struggle for the leadership of the BHU. The heaviest blow, however, for Bhagavan Das probably was the controversy about the question whether he as a non-Brahman was allowed to teach Hindu religion in the Faculty for Theology. As early as 1912 or 1913 Malaviya had made it clear that the new university would have nothing to do with Theosophy.[2] As soon as he had the opportunity, he pushed aside Bhagavan Das' textbooks on Sanatan Dharma[3] and asked one of his protegees to write new textbooks on Sanatan Dharma for the BHU.[4] Thus, the famous philosopher and Sanskrit-scholar Bhagavan Das, was to be excluded from teaching in the Faculty of Theology due to his not being a Brahman.[5] On March 7th, 1919, the Faculty of Theology resolved that only Brahmins who strictly followed the ancient traditional rules of sadachar (morality), should be appointed as religious instructors and lecturers in the BHU. Bhagavan Das could not prevent the resolution since he was not present at the meeting. At the next meeting on May 6th, 1919, he called for a cancellation of that resolution. Malaviya tried to bring about a compromise by adding: ".. Provided that non-Brahmin scholars also can lecture on religious subjects in the English Department so far as it is in conformity with the rules laid down by the Faculty of Theology". Malaviya's compromise was generally accepted, however not by Bhagavan Das, as it meant an even stronger discrimination in that it would relegate him into the English Department. On August 30th, 1919, he once more tried to have the resolution cancelled. G. N. Chakravarti wanted to push the point further: he asked the Faculty whether the resolution meant "to preclude or to permit the appointment of a non-Brahmin as a teacher of religion". The Faculty answered on the 24th of January, 1920, that it was the opinion of the Faculty "that only such Brahmins as combine piety with learning and are sanctified by the practice of long cherished Sadachar should be appointed as teachers of religion. Only in the case of "apatkal", when such Brahmins are not available, the Faculty might consider that according to Manu's lawbook also non-Brahmans who have similar qualification as Brahmins, can be employed as teachers of religion". Bhagavan Das now turned to the council, which directed the case to the Court but added "to direct the Faculty of Theology through the Council and the Senate .. not to lay down, in the matter of appointment, a policy which will have the effect of shutting out any caste from holding any appointment under the University".

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[1] Ibidem, p. 396 ff.

[2] Sri Prakasa, *Annie Besant*, op. cit., p. 205.

[3] Sri Prakasa, *Dr. Bhagwan Das*, op. cit., p. 57; and Arthur H. Nethercot, op. cit., p. 164.

[4] *The Sanatandharmoddhara*. Being a Sanskrit Treatise on the Eternal Religion of India. With a free rendering in Hindi. By Pandit Umapati Dvivedi alias Pandit Nakchhed Ram Dube. Vols. I & II Benares 1932, vols. III & IV Benares 1942. The author writes in the Foreword to the first volume, which is dated May, 1912, that he undertook his treatise "at the especial desire of the Hon'ble Pandit Madan Mohan Malaviya of Allahabad six years ago". It would be worthwhile to compare Dube's work with the old Sanatan-Dharma Text-Books written by Bhagavan Das and Annie Besant.

[5] The following after Ḍar and Somaskandan, op. cit., pp. 475-483.

The court dealt with this matter on December 11th, 1920. Malaviya tried to explain, if not to justify the resolution to the Court. He was speaking of a "general sentiment among the Hindu community as a whole (i.e. including non-Brahmins), that professors of Theology at the BHU should not only be endowed with knowledge and piety, but also, if possible, that they should belong to that class, whose special duty it was according to old religious customs to teach religion".

Malaviya's speaking in favour of the Pandits was not sufficient to win the sympathy of the Court. The Court declared as invalid the resolution of the Faculty of Theology that only Brahmins were allowed to teach.

For Bhagavan Das this victory came too late, though it might have given him satisfaction: for in the meantime, events had taken place which had directed him into quite a different direction. 1920 was the year in which Gandhi started his non-cooperation movement and Bhagavan Das was one of his main supporters in U.P. Bhagavan Das found his aversion to the close connection between the Government and BHU confirmed by Gandhi's call to boycott all educational institutions which were dependent on the Government. For Malaviya, on the other hand, this policy was a threat to his life's work. When in June, 1920, a meeting of the AICC was organised at which the policy of non-cooperation was to be discussed, the difference between Malaviya on the one side, and Bhagavan Das and Gandhi on the other, was dramatically revealed. Bhagavan Das' son, Sri Prakaša wanted to use the buildings of the old CHC as a meeting place, but Malaviya put in his veto. As Vice-Chancellor of the BHU, he now was landlord of the former CHC. This was especially bitter for Bhagavan Das, since practically his own creation was refused to him.[1]

Under the impression of these events Bhagavan Das decided to leave the BHU for good. But before he did so, he delivered a long speech before the Court on December 12th, 1920, and moved a resolution, seconded by Shiva Prasad Gupta, the first paragraph of which ran as follows:

> That this Court, after watching the working of the Benares Hindu University for four years and a half, feels that its original aims and ideals are not being realised; that its tone and spirit are deteriorating; and that it is sliding more and more into the narrow views, grooves, routines and general defects without the virtues of efficient organisation, which are commonly associated with the official type of mind, and to avoid which the Central Hindu College and then the Benares Hindu University were started as national and non-official institutions.

The two other paragraphs dealt with the possible remedies, which Bhagavan Das suggested.

Before Malaviya, who had become Vice-Chancellor of the BHU, answered Bhagavan Das point by point, Annie Besant moved the following amendment, which was in fact a counter-resolution:

> That this Court thanks the Vice-Chancellor, the Council and the Senate for having made great progress in infusing into the Benares Hindu University the genuine spirit of free science and philosophy, and in properly organising therein cultural as well as vocational education, without subservience to official views and methods; and (2) in starting lines of study which will lead directly to means of livelihood other than Government service and such professions as are appendices thereof.

In the following speech Annie Besant refuted Bhagavan Das' complaints and criticism in detail, thus reversing the fronts which had existed three years before. Annie Besant's siding with Malaviya and both confronting Bhagavan Das clearly mirrored the political fronts which had developed by then: Bhagavan Das on the side of "radical" Gandhi, Malaviya and Annie Besant in the moderate camp.

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[1] Sri Prakasa, *Annie Besant*, op. cit., p. 201/2.

The drama came to a climax when Gandhi during his propaganda campaign for the non-cooperation movement arrived at Benares on November 26th, 1920. In front of the BHU he spoke to the students, exhorting them to leave their university since it was supported by the government and complied with its condition. When Malaviya heard of this, he insisted that Gandhi speak within the university walls and Malaviya even presided over the meeting. Gandhi said in his speech:

> My heart weeps . . . when I see you and behold these huge buildings. Today, in fact, it weeps the more because the life and soul of this University is my revered brother, Pandit Madan Mohan Malaviya. I do nothing with which he is not associated. Ever since I returned to India I have been wishing that I may spend all my life with him . . . It is not a small thing for me to stand here and say something of which my revered brother may not be proud. My religion — which is also his religion — teaches me to sacrifice the most cherished of my possessions for what I consider my dharma. That is what I am doing today. I want to tell you that there is a sharp difference of opinion between me and my revered brother, and yet this has not diminished even in the least the reverence I have for him. I earnestly entreat you that even if you accept my views you should not let it affect the respect you have for Malaviyaji.[1]

12. The founding of the Kashi Vidyapith

The necessary consequence of the boycott was the foundation of new national institutions of education. All over India, so-called "Vidyapiths" were founded during these months. In Benares the foundation stone for the Kashi Vidyapith was laid by Gandhi on February 10th, 1921.[2] Shiva Prasad Gupta donated Rs. 1,72,000 for buying land, constructing buildings, for salaries, scholarships etc. Three and a half years later he endowed the KVP with ten lakhs, the interest of which was to be used for the current costs. The Board of Trustees consisted, among others of J. Nehru, Purushottamdas Tandon, a son of Malaviya who followed Gandhi, Narendra Dev and Bhagavan Das' son, Sri Prakasa. Bhagavan Das himself became Chancellor of the KVP and remained so until 1940 and taught there until 1930.

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[1] *The Collected Works of Mahatma Gandhi*, vol. XIX, Delhi 1966, p. 35.

[2] The following from the Leader, 18th September, 1924, and 25th September 1924, and Sri Prakasa, *Bharat Ratna Dr. Bhagwan Das*, op. cit., pp. 77-79, 179.

Two conditions were binding for the policy of the KVP: that the medium of instruction be the mother tongue (Hindi) in the Devanagari-script and that the institution helped by the trust should not receive financial assistance from the government and should not be controlled by it. This also held true for a future Swaraj-Government. Special emphasis was laid on technical education. The students were to be put into a position to earn their livelihood themselves and not to rely on government jobs. There was a "technical section" which had branches for weaving, spinning and dying, for carpentry, the manufacture of soap and sewing.

The national and the practical aspect had been constituent for the CHC and Bhagavan Das obviously had expected that the BHU would continue this tradition to a larger extent. Yet his expectations regarding the BHU had not been fulfilled: the real successor of the CHC was not the BHU, though taking over the institutional framework, but the KVP, which was a truly national institution. A number of eminent personalities came from its ranks, who were to play a leading role in independent India, among them Lal Bahadur Shastri, Kamalapati Tripathi and Sampurnanand. Among the professors were Acharya Narendra Deva and in the beginning, Acharya J. B. Kripalani.

The controversy regarding teaching by non-Brahmins in the Faculty of Theology went on even after the decision of the Court of December 11th, 1920, and after Bhagavan Das had left the BHU. Some donors, members of the Court and of the Theological Faculty would not accept the Court's decision and they approached the Bharat Dharma Mahamandal for help to have the decision repudiated. The BDM organised a special meeting of the local Brahman Sabha, at which the speakers condemned the "outrageous conduct of the Court". The "open insult to the orthodox Brahmanical community" and "preached the need of organised opposition to the forces of anti-Hinduism".[1] One Pandit criticised Malaviya for his stand during the Court meeting. He admitted, though, that Malaviya had not directly declared himself on the side of the "heterodox party", but, the Pandit said, he had "indirectly lent his support to the majority". The Pandit reminded the audience how during the Magh Mela in Allahabad in 1906 Malaviya had "expressedly bound himself by a vow touching the Ganges water to protect Sanatan Dharma in the University". Malaviya's behaviour at the Court meeting was denounced as "open dereliction of duty" and "breach of vow". In the end two resolutions were passed, in the first of which "the outrageous conduct of the Court" was condemned and in the second the opinion was expressed that the Court "in interfering with the decision of the Faculty of Theology had gone beyond its powers".

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[1] The Report of the Sri Bharat Dharma Mahamandal for the year 1920. Benares 1921, pp. 95/6, 106 ff.

Indeed, at the next annual meeting of the Court, on the 14th of December, 1921, the matter was raised again for reconsideration. A compromise resolution was proposed which ran as follows:

> That the Faculty of Theology should appoint Lecturers in Hindu Religion in accordance with a liberal interpretation, in a catholic spirit, of the Manava Dharma Sastra, without laying down any policy which may injure the feelings of any section of the community."[1]

After some discussion this resolution was passed. The most orthodox section of the pandits, however, had been greatly disturbed by the whole affair and realised that their position in the University was not as strong as they had thought it to be. The BDM in accordance with these pandits took its old scheme for an own Hindu University up again, which it had promoted before it had joined forces with Malaviya in the summer of 1911. Now the BDM tried to found a "College of Divinity" (Sri Sarada Mandala), in which orthodoxy could be followed undisturbed. (A few years later, an effort was made to amalgamate the old Government Sanskrit College with the Faculty of Theology of the BHU, as Malaviya in his Revised Scheme of 1911 had already suggested. But that did not materialise).[2]

Thus, by 1921, we see that the original three movements for a Hindu University which Malaviya had managed to channel into one in 1911, had spread out again and each one aimed at its own version of a Hindu University. But without the combination of the three movements between 1911 and 1916, none would probably have materialised. The price Malaviya paid was, however, high. He had to make considerable concessions to the Government. The BHU had become just another Government institution with the difference that there was provision for science subjects which had hitherto not been taught in India. As a matter of fact, the BHU became famous mainly for these subjects in later years. As far as religious instruction was concerned, indeed, all students of the University

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1. Dar and Somaskandan, op. cit., p. 482.
2. Ibidem, pp. 541 ff.

were touched by regular religious discourses and ceremonies. But the pandits remained as exclusive as they ever had been. Towards the end of the twenties the University more and more suffered from financial difficulties and had to approach the Government for help again and again.

The heaviest price, however, Malaviya had to pay was in his political career. As Malaviya regarded the BHU as his life's work, he clung to it even when the national movement demanded otherwise. His ties to the BHU prevented him from joining Gandhi's non-cooperation movement, which meant that he ceased to be the prominent politician of U.P. or even Northern India, which he had been for several decades, and he had to give away this position to those politicians, who sided with Gandhi like the Nehrus and Bhagavan Das and his son Sri Prakasa.

THE KUṢĀṆA TYPE OF THE GODDESS MAHIṢĀSURAMARDINĪ AS COMPARED TO THE GUPTA AND MEDIAEVAL TYPES

BY

GRITLI VON MITTERWALLNER (Munich)

Several essays have been published in the past decades on the earliest representations of the Goddess Mahiṣāsuramardinī of Kuṣāṇa and Gupta time. The most noteworthy are:

— The paper of Madame O. VIENNOT, describing and illustrating one of the best preserved tablets of the Goddess found in Palekhera well No. II at Mathurā (VIENNOT, 1956: pp. 368-87, Fig. 1);

— the article of R. C. AGRAWALA, drawing attention to *The Goddess Mahiṣāsuramardinī in Early Indian Art* (AGRAWALA, 1958: pp. 123-30, Figs. 1 and 2);

— and the two investigations of J. C. HARLE (HARLE, 1970: pp. 148-53, Figs. 1-7; 1971-72: pp. 44-48, Figs. 1-5).

Moreover in the recent past H. HAERTEL published two representations of the deity in Kuṣāṇa style, which he discovered during his excavations at Sonkh (Mathurā). They are all the more significant, as he could roughly date them according to the horizon, in which they were found (HAERTEL, 1975: pp. 1-24, Figs. 12 and 15).

Today we may add to this known group two more small votive tablets of the Goddess of the Kuṣāṇa period, preserved in the *Staatliches Museum für Völkerkunde* of Munich. Until January 1974, they apparently had not been published as yet, although they have been in the collection of the Museum since 1913, the year, in which L. SCHERMAN, the then Director, acquired them at Mathurā in India. (We are indebted for this information to Dr. A. LOMMEL, the present Director of the Museum, who also kindly supplied us with photographs of the two slabs.)

The two tablets are listed in the catalogue of the Museum under MU. 199 and MU. 200 (the syllable MU being an abbreviation of Muttra= Mathurā). Furthermore handwritten remarks in the catalogue state as provenance: "Rajakhera (Agra District), which according to a letter of Shri Radha Krishna of 5.6.1913 is situated ca. 40 km to the south-east of Agra." We shall first describe the two representations before comparing them with the already published ones.

The better preserved and presumably older of the two votive tablets, numbered MU. 199 (Fig. 1), measuring 18,5 cms in height, of buff coloured sandstone, depicts the four-armed Goddess and Mahiṣāsura in the animal-shape of a water-buffalo. He seems to have rushed towards the Goddess, rearing up in front of her, while the Devī receives the onslaught of the assailant steadfast with the weight on her right leg. She presses her right hand on his back and embraces him with her left arm around the neck, thus being in bodily contact with the buffalo like in a wrestling fight. In her upper or secondary right hand, not provided with a shoulder of its own, she holds a trident (triśūla) pointing upwards like the arm. The three prongs are still faintly delineated despite the erosion on the surface of the stone, caused by its lying in the water — most probably of a well. The handle of the triśūla is conspicious by its shortness. The opposite upper left hand, sculptured in side view, apparently grasps a shield likewise represented in profile.

The Goddess wears a dhotī from the waist to the ankle, the upper body being bare. Her hair seems to be gathered in a broad flat crown of the dhammilla type on the top of her head. Her ornaments consist of heavy round disks, worn in the ears, a rather thick necklace and armlets on both wrists, whereas anklets are missing.

The surface of the second tablet MU. 200 (Fig. 2), measuring 22 cms in height, of the peculiar reddish mottled sandstone found near Mathurā, is even more eroded due to the effect of the water, in which also this small slab must have been deposited for a long time. Yet so much is clear: The Goddess is represented in almost the same attitude as in the previous example. However, the way in which she overwhelms the buffalo seems to have lost something of the vigour displayed in the first tablet MU. 199. The emphatic pressure, which the right main hand is exerting to crush the spine of the buffalo is no longer present. Besides, the shoulder is no longer represented in such a bulbous shape that it almost protrudes from its joint, forming a bulge high above the proper level of the shoulder as in MU. 199. At the same time the sweeping curves of her legs are a trifle exaggerated, creating the impression as if she could hardly withstand the onrush of the buffalo in such a precarious position.

These observations serve as a hint to a slightly later date of its creation.

The artisan's vision seems to have slackened, the composition now being less dynamic and more conventionalized. Apparently he sculptured it in a time, in which this type must have been repeated many times, thus loosing something of its original convincingness.

In her upper or secondary hands the Goddess of MU. 200 carries two attributes, which are difficult to identify. The short crooked object in her right upper hand may represent a weapon for cutting or striking, probably a knife or scimitar. It is of the same shape as the one in the right upper hand of the terracotta fragment of Mahiṣāsuramardinī, found at Sonkh in horizon 21, published and dated by H. HAERTEL into the time of Kaniṣka I (1973: Fig. 15, pp. 14, 10). The object in her upper left hand may have been meant to represent a squarish shield, held by the handle at the back of it, for neither the hand nor the handle are visible. Merely the bangles on the wrist may be seen.

What is the significance of these two Mahiṣāsuramardinī images of Munich, as well as of the others of the same type?

If we view both votive tablets from Munich together with the previously published ones, we may say that there is fundamentally not much difference. In all of them the Goddess overcomes the buffalo obviously by breaking his spine and strangulating him with her main hands which carry no weapons. Even though weapons have been displayed in her upper or secondary pair of hands, they are not portrayed in a position for immediate, i.e. active use, in the struggle between the Devī and the buffalo.

In the four-armed representations she carries in her upper pair of hands either the spear (ṣūla) and the trident (triṣūla), as for instance in the slab numbered 2317 of the Museum at Mathurā (Fig. 3) or she grasps trident and shield as in MU. 199 (Fig. 1). Whenever she is depicted in Kuṣāna time with six arms, the shield may appear in her left middle hand as in slab No. 875 of Mathurā (VIENNOT, 1956: Fig. 1). In the latter six-armed type she often holds a garland in horizontal position across her head with the uppermost or third pair of hands (VIENNOT, 1956: Fig. 1). That this object is meant to represent a garland and no snake, drum, tray or iguana, as previously believed by some scholars, has been clarified by J. C. HARLE in one of his recent papers (1970: p. 148 ff.). We independently arrived at the same conclusion in our still unpublished monograph on some Śaivite Deities of Goa (MITTERWALLNER, 1970: p. 275 ff.).

Let us now sum up the most important point: The Devī of the above-named early Kuṣāṇa type does not vanquish the buffalo-demon with any weapon, but she subdues him with the mere strength of her hands. An allusion to this assumption is furnished by the strikingly short handle of the triśūla which the Goddess holds in tablet MU. 199 of Munich in her right upturned hand (Fig. 1). It is difficult to imagine that such a short-handled trident could be of much effective use as a weapon to slay the demon, contrary to the subsequent Gupta style, in which the shaft is no longer of stunted growth, but assumed the normal length of a war-weapon. The Devī of slab No. 2317 in the Mathurā Museum carries a similar short-handled triśūla in her upper left hand. In this tablet, too, the shaft does not continue below the arm (Fig. 3).

In the interesting terracotta-plaque of Sonkh of rather crude workmanship, found in horizon 16, to be dated according to H. HAERTEL into the later Kuṣāṇa time of Vasudeva I and Kaniṣka III (HAERTEL, 1973: p. 10, Fig. 12), a triśūla of the same short-handled kind is being grasped by the Devī with her upper pair of hands, obviously just before an impending action. To be more precise: Though the Devī still strangles the Demon with her left arm, embracing him tightly around his neck, while putting her right hand on his backbone as if wanting to break it, she now seems about to stab the buffalo with the triśūla, held immediately above her head, the three prongs of which point downwards instead of upwards as in the two afore-mentioned tablets. Hence this plaque is to be placed as a transitional link in the evolution subsequent to the earlier Kuṣāṇa tradition, since it already foreshadows the following Gupta type. In fact with this terracotta-plaque we are on the verge of leaving the genuine Kuṣāṇa type, which forms a homogeneous group by itself.

To realize this fully in all its inherent consequences we have to analyse the Gupta type. For only by comparison with the later type we are in a position to assess the uniqueness of the Kuṣāṇa type correctly.

The early Gupta type is best preserved in the three Mahiṣāsuramardinī reliefs at Udayagiri (M.P.). Two are carved in front of Cave No. 6; one of them on the north-wall of the courtyard (Fig. 4) and one on the façade of Cave No. 6 itself to the proper left of its entrance (Fig. 6). A third is chiselled on the outside wall of Cave No. 17 at the same locality, also to the proper left of the doorway (Fig. 5).

Gurukul Kangri Vish
Library

In the first and third representation (Fig. 4 and 5), the posture of the buffalo is still represented as in the Kuṣāṇa type, i.e. he is still seen leaping up in front of the Goddess, his head rising above her left shoulder, while she presses down his spine with her main right hand. But in both carvings she mortally wounds him by piercing his back with the now long-handled triśūla, held by one of her secondary right hands. Although the shaft of the trident is badly defaced in the first relief of the Devī on the northern wall of the courtyard to Cave No. 6 and preserved only in parts as a wavy ridge (Fig. 4), the shaft of the triśūla in the later imitation on the facade of Cave No. 17 is clearly traceable right up to its three prongs pointing downwards on the chine of the animal (Fig. 5). The artisan of the latter apparently in a somewhat later time minutely copied the vigorous relief on the northern wall of the courtyard in front of Cave No. 6 (Fig. 4).

Both represent twelve-armed versions of the Mahiṣāsuramardinī. On the facade of Cave No. 17, the Goddess pulls up the buffalo's tail with her second right hand, whereas the second left hand holds the outstretched left foreleg of the animal. The remaining hands with the exception of the main right and left one, carry weapons or attributes: The third upper right hand holds an arrow, the fourth the triśūla, the fifth probably a club or dart (javelin), the sixth right uppermost hand grasps one end of a garland stretched across her head. On the other side from below: the third left hand holds a bow, the fourth a shield, the fifth to all appearance a single lotusflower with its still visible cup-like bud on top, its stalk being too slender to be identified as the lower part of a club. (A single lotusflower held by Mahiṣamardinī in one of her uppermost left hands appears also in a wall-panel on the northern side of the Someśvara Temple at Mukhalingam according to a photograph of MADHURI DESAI, Bombay). The sixth left hand of the Mahiṣamardinī at Udayagiri (Cave No. 17) seizes again the other end of the garland.

The creator of this relief thus handed down to us in the form of a faithful copy the less well preserved composition of the twelve-armed Mahiṣāsuramardinī in the courtyard of Cave No. 6, which must have served as a prototype as it betrays a higher rate of active engagement on the part of the artist resulting in enlivened bodily forms and outlines (Fig. 4). From the last-mentioned representation so much is certain — despite its precarious state of preservation: the triśūla had been introduced as a deadly weapon with a long shaft and it had been put into action. From this time onwards the trident remains one of the two most important slaying instruments of the Gupta and mediaeval types of the Mahiṣāsuramardinī images. The Goddesses of the courtyard in front of Cave No. 6 and on the wall of Cave No. 17 hence appear to be of a type intermediate between the Kuṣāṇa and the fully developed Gupta type. Consequently they are to be placed prior to the genuine Gupta type, which has been preserved in the famous and often described relief to the proper left side of the door on the outside wall of Cave No. 6, just below the counter-sunk panel containing the two well-known lines of the inscription incised during the later reign of Chandragupta II, mentioning the year of the Gupta Era 82, i.e. A.D. 401-2 (Fleet, reprint 1963: p. 21 ff.).

In the last-named representation, the Devī possesses twelve arms as well, but she holds newly introduced weapons and attributes in her hands (in addition to the already represented ones), such as the sword and the bell. Moreover she now grasps the buffalo by his left hindleg, after having uprooted him, whirled him round her head and thrown him on the ground, thus at the end of the fight posing as a victoress by placing her right foot on his head in a triumphant pose (Fig. 6). This relief obviously reflects a later development as manifested by the compositional concept. We called it the type, in which the Goddess grasps the buffalo by its hindleg (Mitterwallner, 1970: pp. 273-79). It remains a favourite theme for several centuries among the artists of Central India, Western India and on the the West Coast according to the sculptures discovered so far. Among the published ones are the Mahiṣamardinīs of Bhumara, M.P. (Banerji, 1924: Pl. XIV, b), Karvan, Gujarat (Seshadri, 1963: Pl. 6, A), Osia, Rajasthan (Mitterwallner, 1970: Pl. 204) and Korgaon, Goa (Mitterwallner, 1970: pp. 273-74, Pls. 199 and 200). (Compare Fig. 7 and 8.)

In this type the Goddess no longer kills the buffalo with the physical strength of her arms and hands, but with a weapon, the triśūla, now placed in her main right hand, whereas the Devī of the earlier relief on the northern wall of the courtyard in front of Cave No. 6 yet grasps the trident with her *fourth* right hand, the main right one pressing down the spine of the buffalo (Fig. 4). Hence the latter seems to us to be more revealing than the famous relief on the facade of Cave No. 6, for it introduces a vital characteristic of the later completely emerged Gupta type, as represented in the aforementioned relief. Besides there is another significant change in the composition of the transitional type on the northern wall in the courtyard of

Cave No. 6, to which we want to draw attention. The Devī no longer embraces the buffalo with her left arm as if wanting to throttle him. Her main left hand has moved up and is now displayed in the shape of a fist above the muzzle of the buffalo. The back of the fist is still clearly seen. But we do not know in what functional action the hand had been engaged in, since the fingers are missing. However, if we compare the damaged hand of this rock-carving with the preserved one in the terracotta plaque from Nagar (Jaipur), published by R. C. AGRAWALA (1955: pp. 37-39; 1958: Fig. 1), it becomes obvious which one had been meant (Fig. 9). It apparently seized the tongue of the buffalo which, as a reflex of the shock and agony of impending death, issued from the mouth of the animal.

In this clay tablet of Nagar the left hand, placed immediately above the muzzle of the buffalo, is also modelled like a fist, the back of the hand turned towards the observer. Through the clenched fist issues forth the lobate tip of the tongue of the beast overlapping sideways above the fist to the proper left. In this way the tongue is distinguishable from the armlet around the wrist of the Devī's left hand, that she wears along with an analogous bangle on her right arm, both with a groove in the centre. The left bangle hence should not be confused with the buffalo's tongue.

Under the raised left foot of the Devi her vehicle, the lion, is clearly modelled. Comparing his sitting posture with the bulgy, now almost shapeless mass of carved rock under the raised left foot of the Goddess in the courtyard to Cave No. 6 and the one near the door of Cave No. 17, we are led to suppose that also in these representations at Udayagiri the lion had been carved (Fig. 4 and 5). In all three reliefs: in the one of Nagar and the two of Udayagiri, the lion does not yet take an active role in the fight between the Goddess and the buffalo as in the later mediaeval images of the Mahiṣamardinī. He merely serves as a sort of footrest, facing away from the Goddess to the proper left, uninterested in the fight taking place above him.

As period of their creation we presume a time not too distant from the rock-carving of the Mahiṣāsuramardinī on the facade of Cave No. 6, which surely cannot be later than the year mentioned in the inscription above the Devī and Viṣṇu, namely A.D. 401-2 (Fig. 6). Comparing the earlier reliefs of Udayagiri in the courtyard of Cave No. 6 and the one on the wall of Cave No. 17 with the terracotta plaque from Nagar, the latter then should be placed anterior to the former, for these are slightly further developed, the Devī already applying the triśūla as a stabbing or killing weapon, which is yet conspicuous by its absence in the terracotta tablet of Nagar.

However, regarding the date of the last-mentioned plaque we cannot accept a pre-Kuṣāṇa one as maintained by R. C. AGRAWALA, according to whom "the facial features, dress and ornaments of the Goddess suggest a fairly early date (first century B.C. — first century A.D.)". (1958: p. 127). We date it later, but also into a time prior to the dynamic ingenious relief of Mahiṣamardinī in the courtyard of Cave No. 6. The following observations seem to back our suggestion:

Firstly: there is an obvious accordance of its main compositional elements with the ones of the Mahiṣamardinī in the courtyard of Cave No. 6 at Udayagiri, which mainly differs from the Devī of Nagar by displaying twelve arms instead of only four and by not holding a thunderbolt in one of her upper right hands, which figures prominently in the Nagar tablet.

Secondly: our view is corroborated for instance also by the coiffure and headgear of the Mahiṣamardinī from Nagar in comparison with the above cited Devī of Udayagiri. They still belong to a variety which seems to have been in vogue for quite some time prior to the hair-style of all three Mahiṣamardinīs at Udayagiri, which consists of a wreath-like chignon around the head. Especially in the earliest of the three Devīs, the one in the courtyard of Cave No. 6, this hair-wreath or crown is carved in the form of such a voluminous mass, projecting towards all sides from the head, that it creates the impression as if the artist intended to encircle it by the haircrown.

The Mahiṣamardinī of Nagar, however, has her hair above the forehead brushed up in slanting grooves and on both sides above the ears apparently two lateral hair-knots seem to be hidden behind large disks stamped with circular marks. Both prominent side-projections are fringed by two strings of beads which are rather crudely cut. (Of these two projecting disks only the one on the proper right side is clearly seen, whereas the other is partly concealed behind the padded and tasseled shield held by the Devī's upper left hand). Between both disks appears a peculiar central headgear on the top of the head, bound by or fixed to a double-fillet. It is composed of six or seven upright standing objects, which do not seem to represent jaṭā-strands, since the ends of several of them are marked with circular dents.

The closest parallel which we could find to compare with this strange headgear is the one of Hārītī, seated to the proper left side of Kubera, also made of terracotta and definitely belonging to the Kuṣāṇa time, as suggested by V. S. AGRAWALA (1936: p. 33, Fig. 47). She, too, displays a fan-like device around her head consisting of twelve upward projecting objects, the ends of which are marked by circles or semicircles However, in this head-dress the deep vertical grooves in the centre of the upraised objects are missing, which form a characteristic of the ones in the headgear of the Mahiṣamardinī from Nagar.

What are these projecting objects of the fan-like head-dress supposed to represent? .. Clumsily modelled peacock-feathers with peacock's eyes imprinted at the end of each of them? — A similar headgear also appears behind the head of the Gajalakṣmī from Mathurā (V. S. AGRAWALA, 1965: Fig. 177) and according to PRAMOD CHANDRA as "projecting plumes" the head of the Gajalakṣmī in the centre of a broken toraṇa architrave from Kauśāmbī, dated by him into the first century B.C. (1970: p. 58, Fig. 77 b). If these "plumes" are supposed to represent peacock-feathers, then several early aspects of Goddesses, such as Gajalakṣmī, Hārītī and Mahiṣāsuramardinī had been crowned by peacock-tailfeathers which, according to E. W. HOPKINS, are a sign of Durgā (Epic Mythology, reprint: Varanasi 1968, p. 224).

However, we do not find ourselves in a position to take this single feature as a criterion for dating the Nagar tablet as early as the above named specimens. For: as far as other elements are concerned, for instance the jewellery or loincloth of the Mahiṣamardinī from Nagar, she has several points in common with the Pārvatī of the Umāmaheśvara-image (Fig. 10), discovered at Kauśāmbī (ANNUAL REPORT, 1913-14: p. 262). Albeit this is a rather contradictory and atavistic icon, repeating several traits in dress and ornament of an older image which must have served as a model to the village-artist and although even the year 139, mentioned in the inscription of this relief (of an unspecified Era) is controversial, — associated by S. KRAMRISCH with the Kalacūri Era (1931: p. 17), whereas we assign it with J. F. FLEET (REPRINT 1963: p. 265) to the Gupta Era, i.e. into the year 458-59 A.D. (319-20 plus 139 = 458-59 A.D.) —, there are several features which invite a comparison with the Mahiṣāmardinī

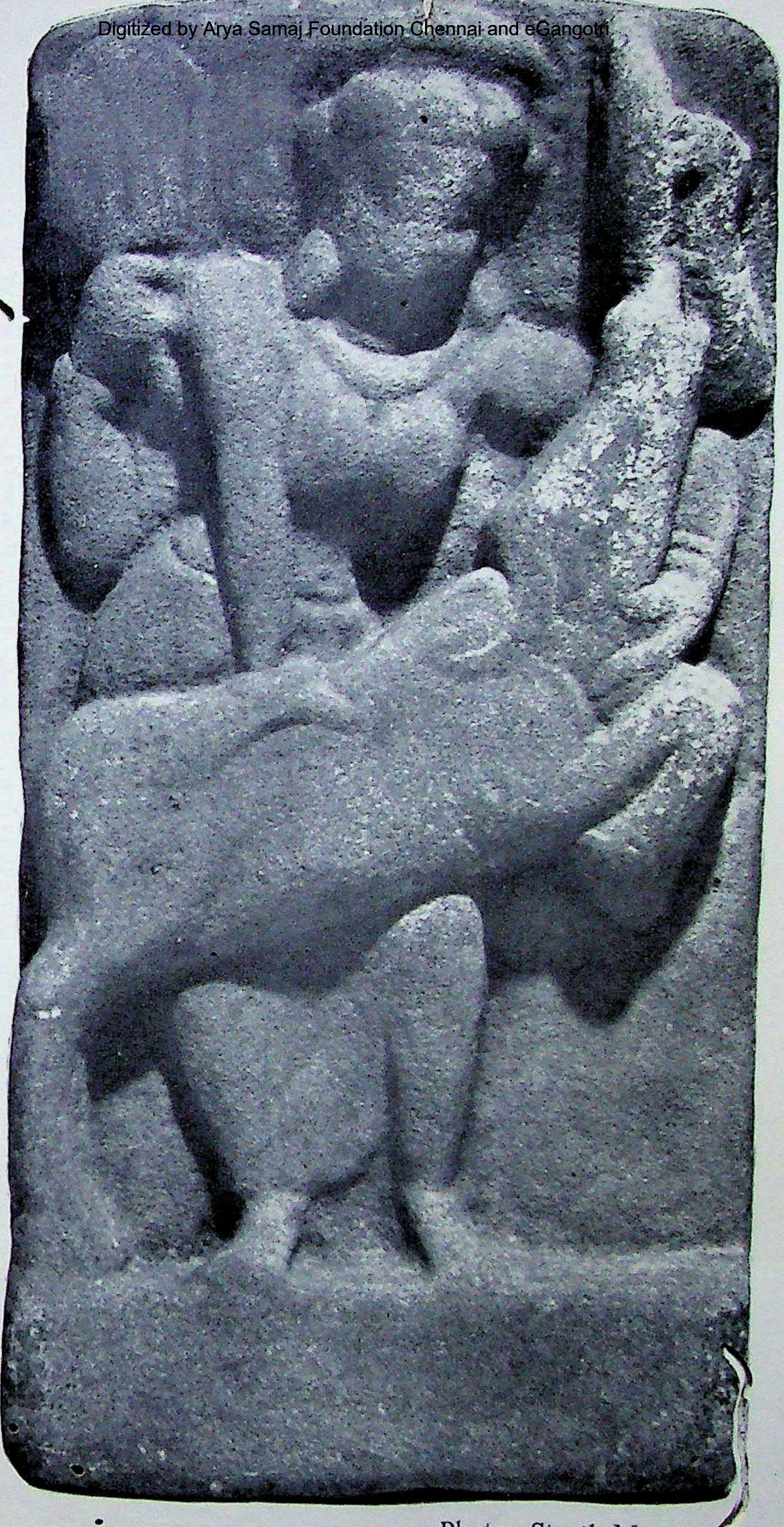

Photo: Staatl. Museum für
Völkerkunde, Munich

Fig. 1 Mahiṣāsuramardini, State Museum of Ethnology, Munich. MU 199

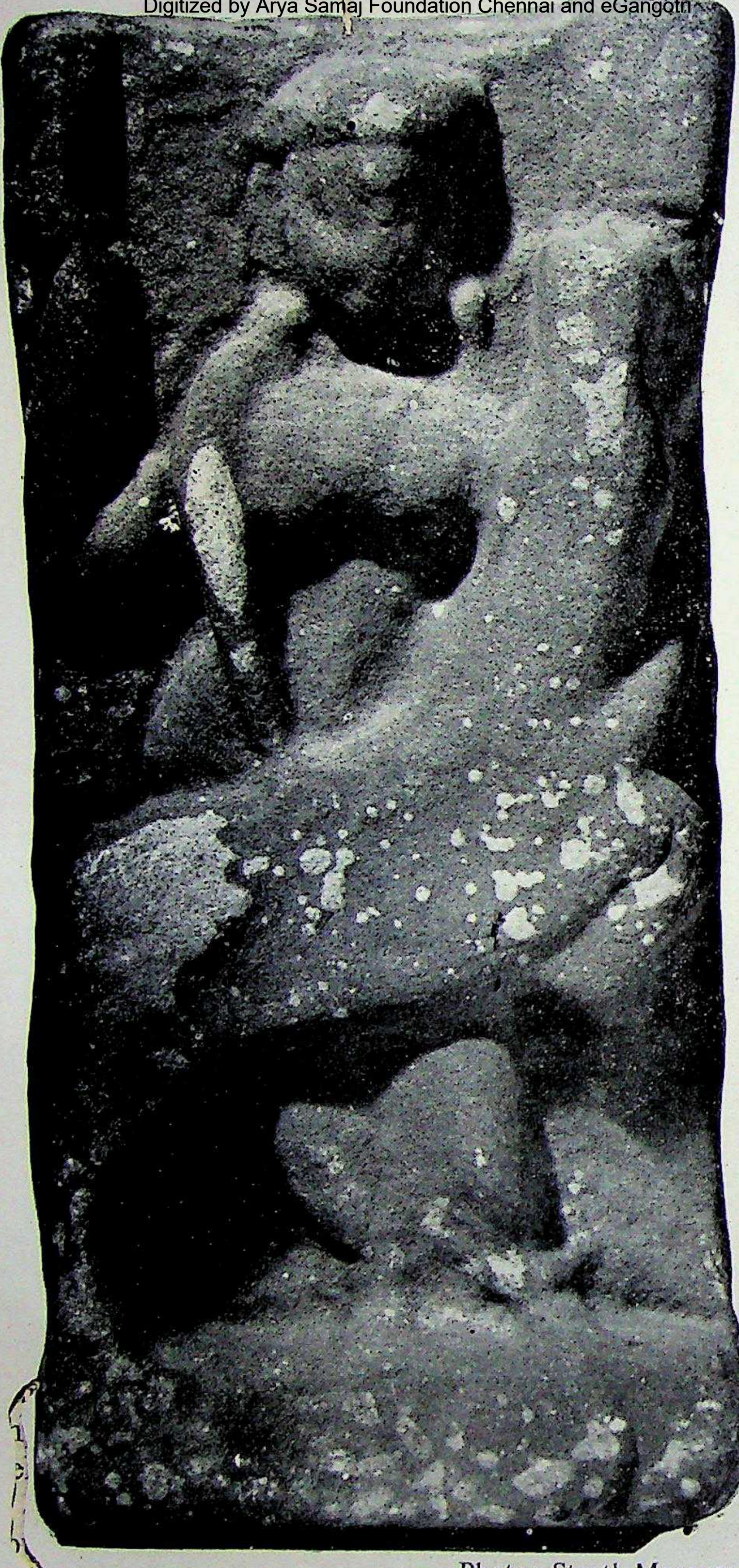

Photo: Staatl. Museum für
Völkerkunde, Munich

Fig. 2 Mahiṣāsuramardinī, State Museum of Ethnologie, Munich. MU 200

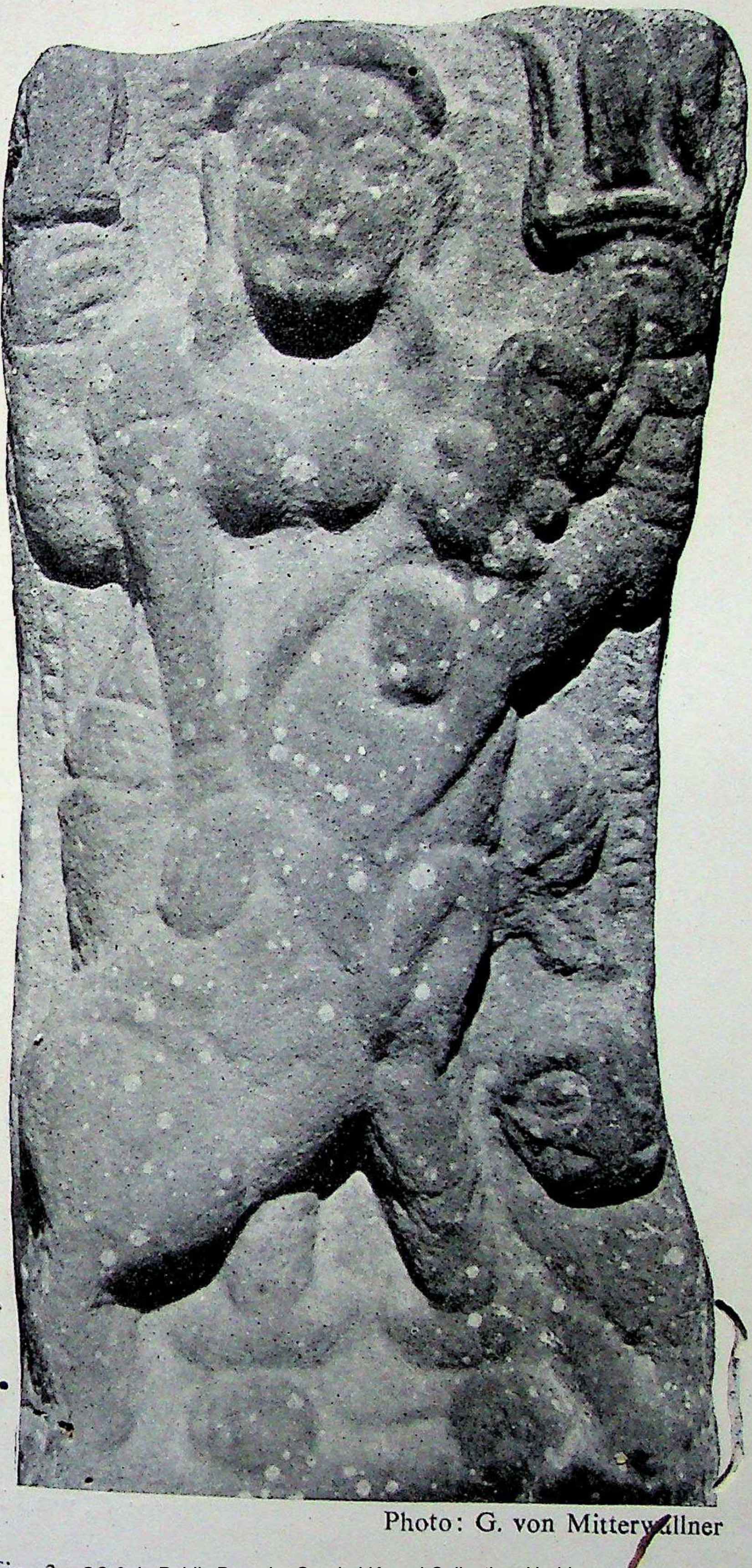

Photo: G. von Mitterwallner

Fig. 3 Mahiṣāsuramardini Arch. Museum, Mathura, No. 2317

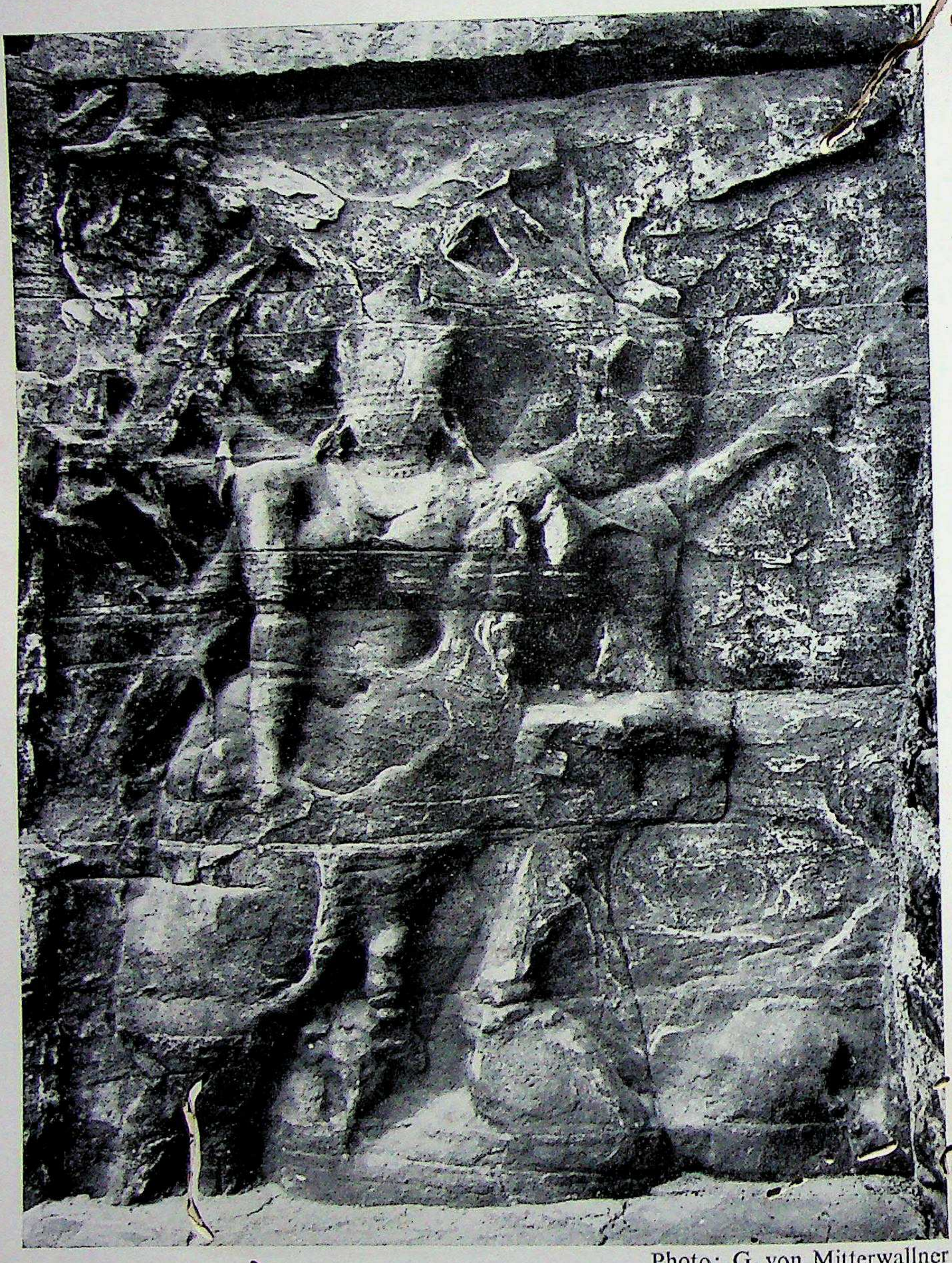

Photo: G. von Mitterwallner

Fig. 4 Mahiṣāsuramardinī, Udayagiri (M.P.), north-wall of the courtyard in front of Cave No. 6

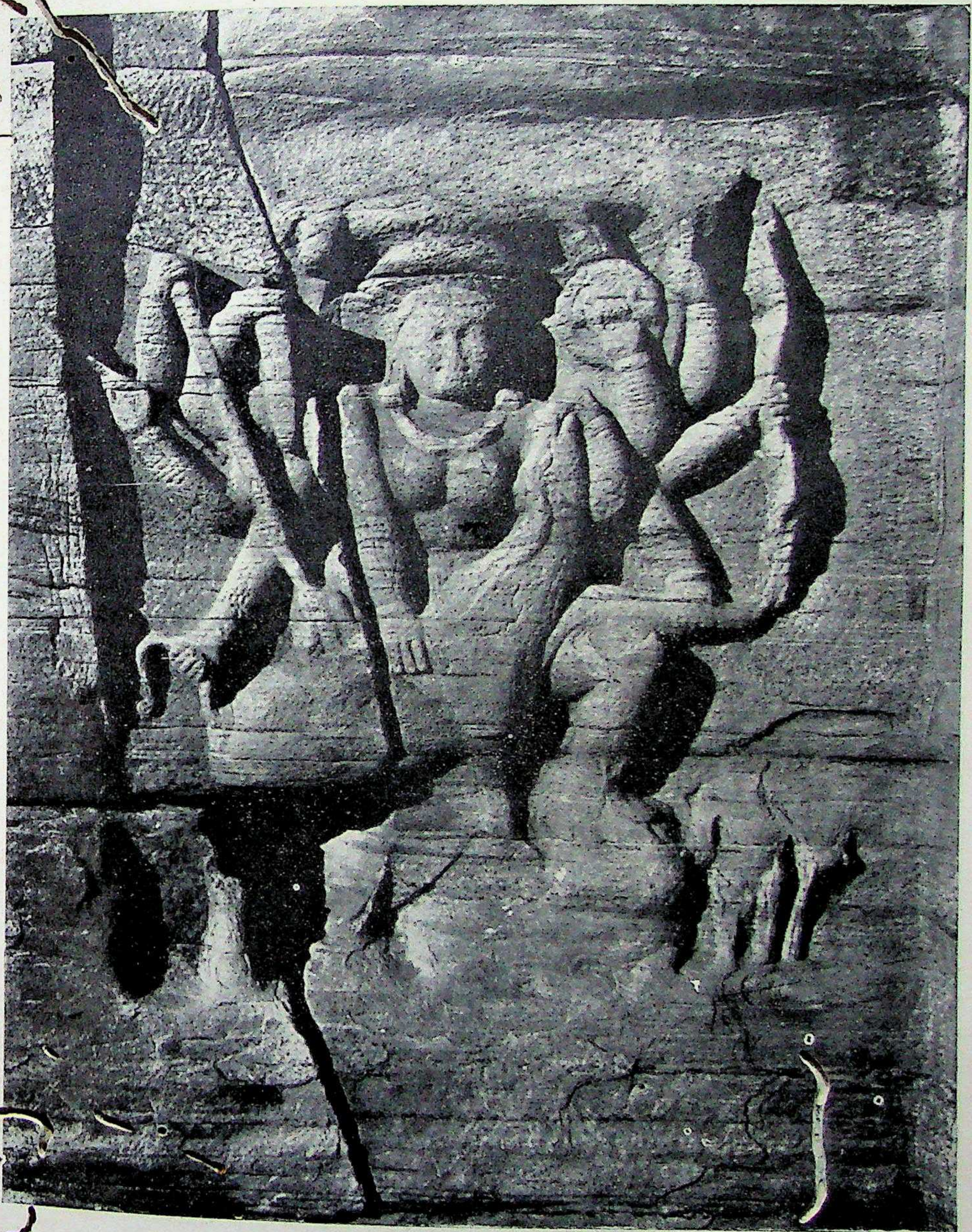

Photo: G. von Mitterwallner

Fig. 5 Mahiṣāsuramardinī, Udayagiri (M.P.), to the proper left of the door to Cave No. 17

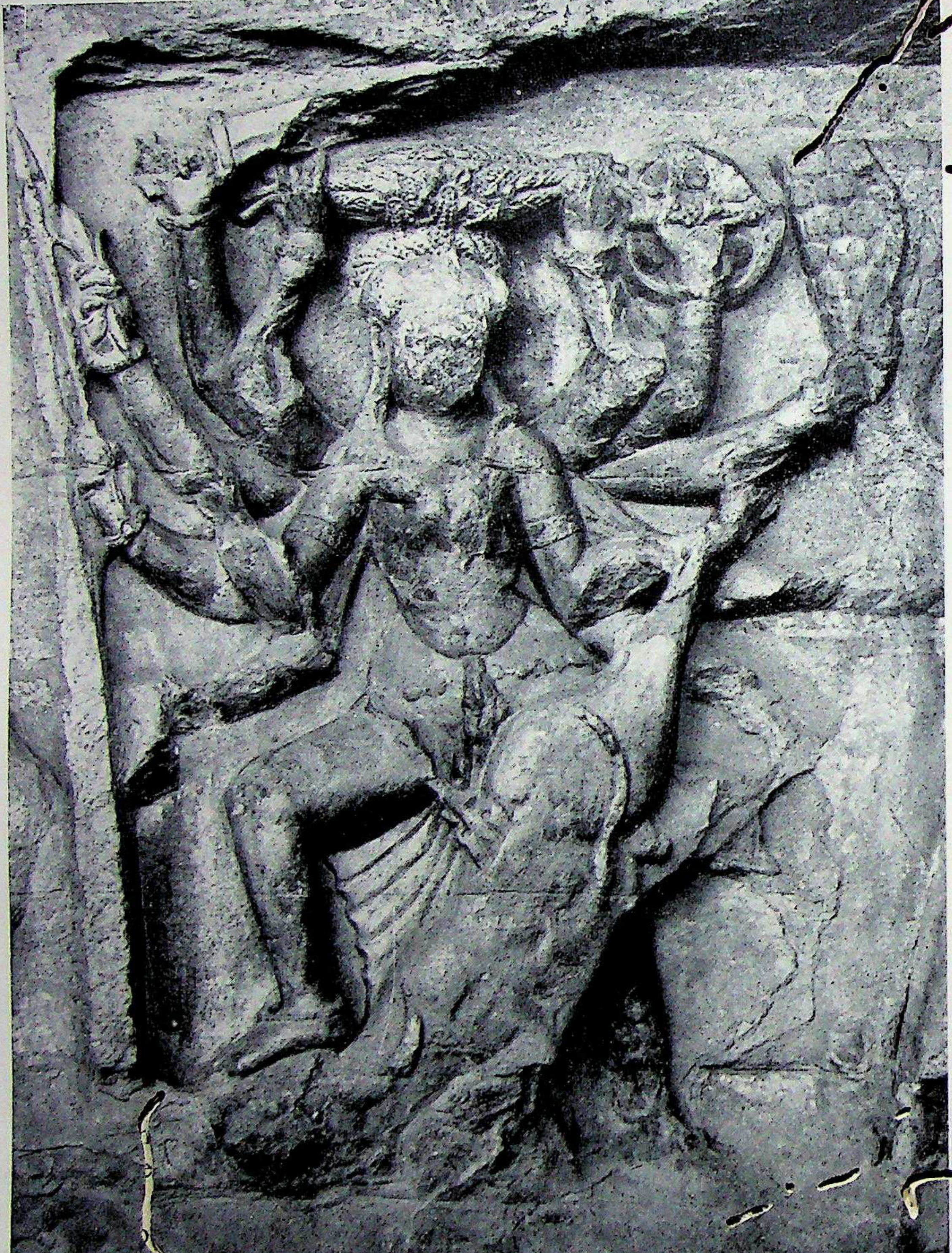

Photo: G. von Mitterwallner

Fig. 6 Mahiṣāsuramardinī, Udayagiri (M.P.), to the proper left of the entrance to Cave No. 6

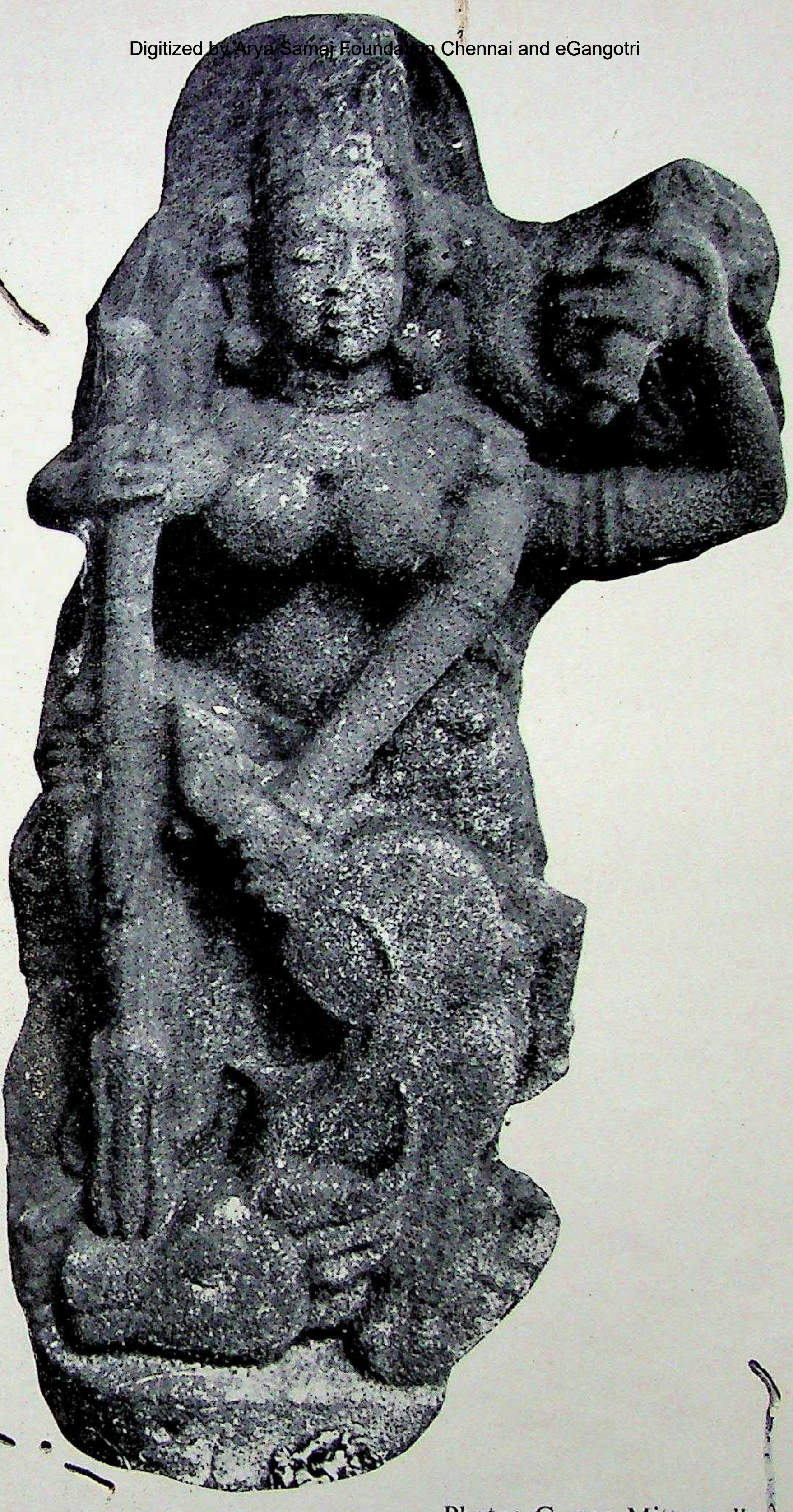

Photo: G. von Mitterwallner

Fig. 7 Mahiṣāsuramardinī, Korgaon, Taluka of Pernem, Goa; on a dilapidated shrine-platform under worship in the market-place of the village

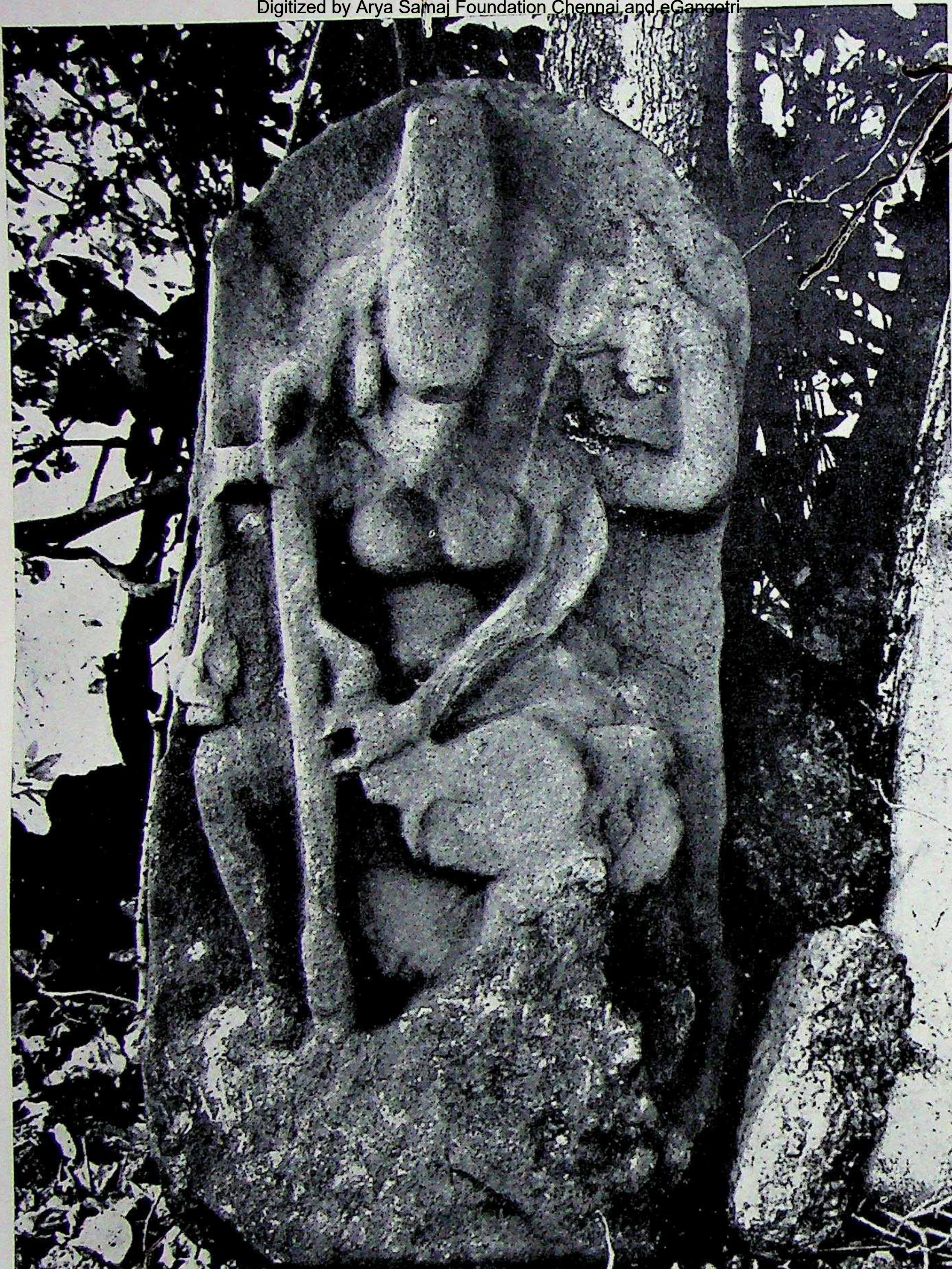

Photo:- G. von Mitterwallner

Fig. 8 Mahiṣāsuramardinī, Korgaon, Taluka of Pernem, Goa; excavated by us from among the roots of a holy fig-tree at the border of the village to the north-west

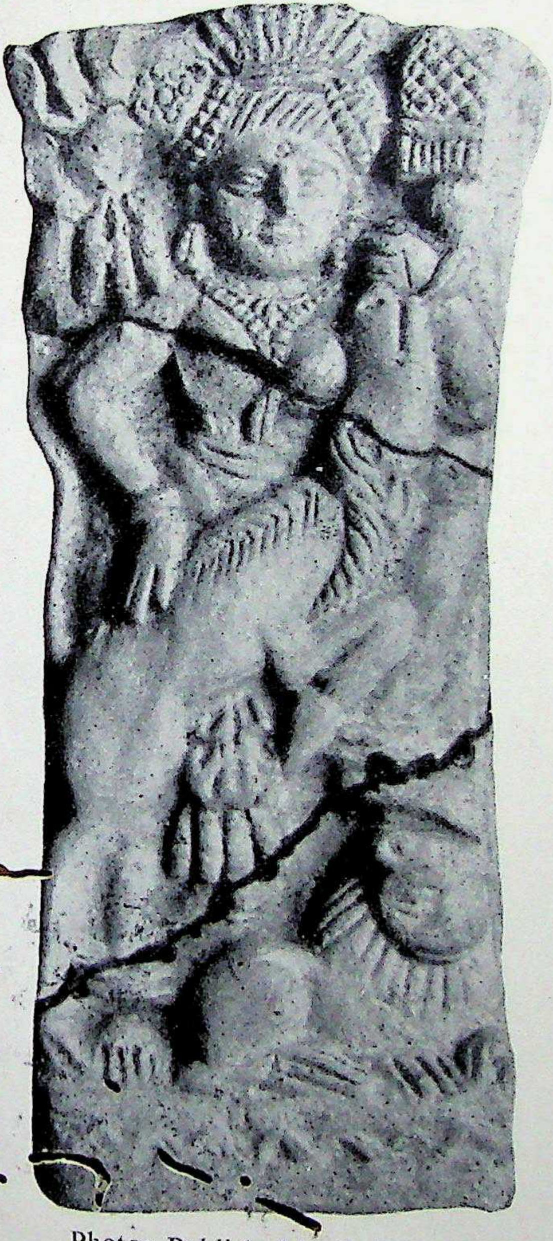

Photo: Published by R.C. Agrawala (1958)

Fig. 9 Mahiṣāsuramardinī from Nagar (Rajasthan) in the Amber Museum

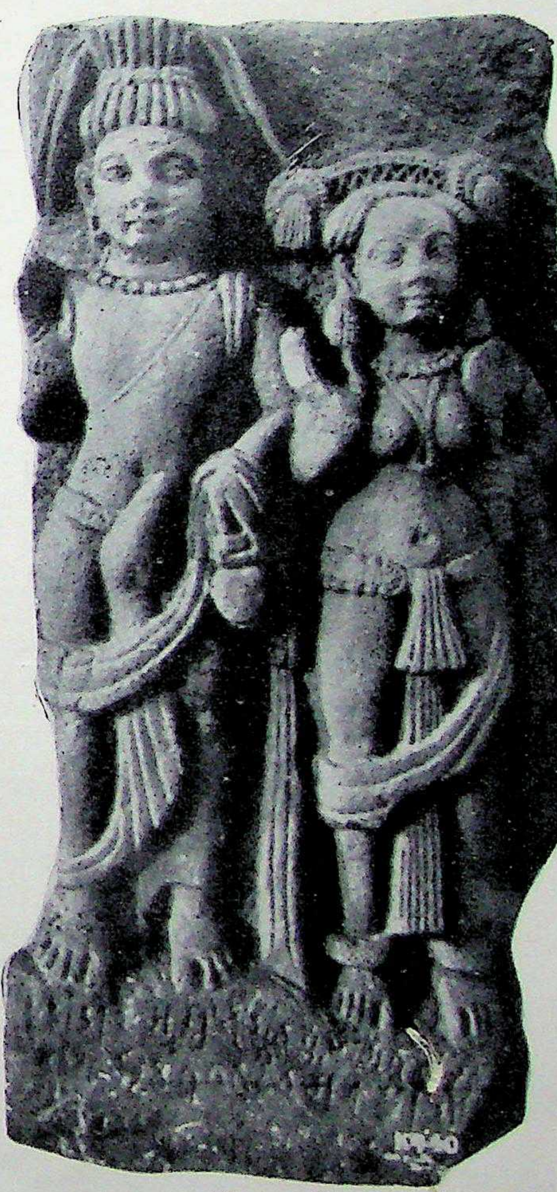

Photo: G. von Mitterwallner

Fig. 10 Śiva and Umā from Kauśāmbī (U.P.), transferred to the Indian Museum, Calcutta

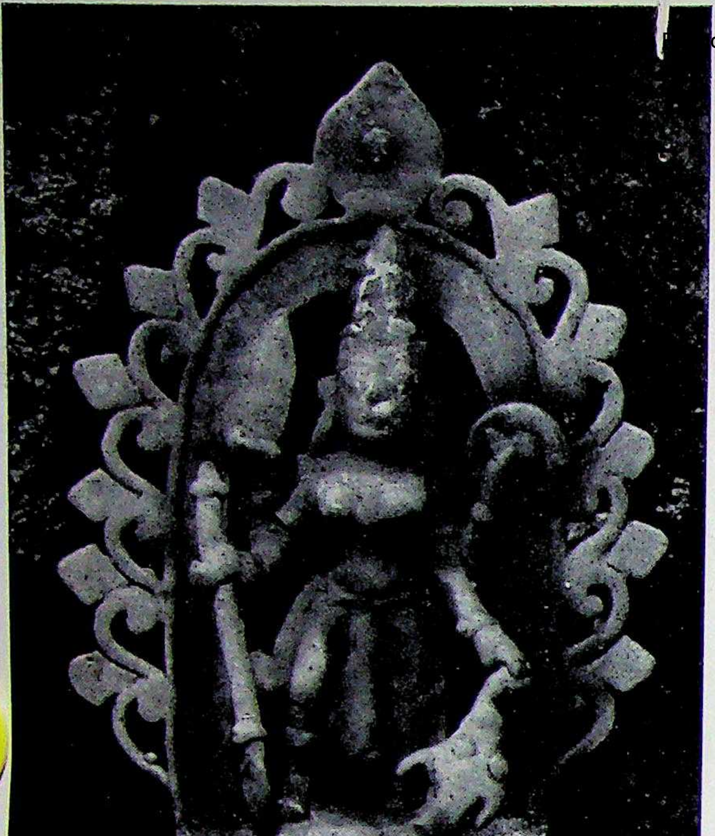

Photo: G. von Mitterwallner

Fig. 11 Mahiṣāsuramardinī, under worship in a small shrine of Makirankanivāḍa near Mandrem, Taluka of Pernem, Goa; bronze

Fig. 12 Mahiṣāsuramardinī, under worship in the Nārāyaṇa temple of Korgaon, Taluka of Pernem, Goa; wood

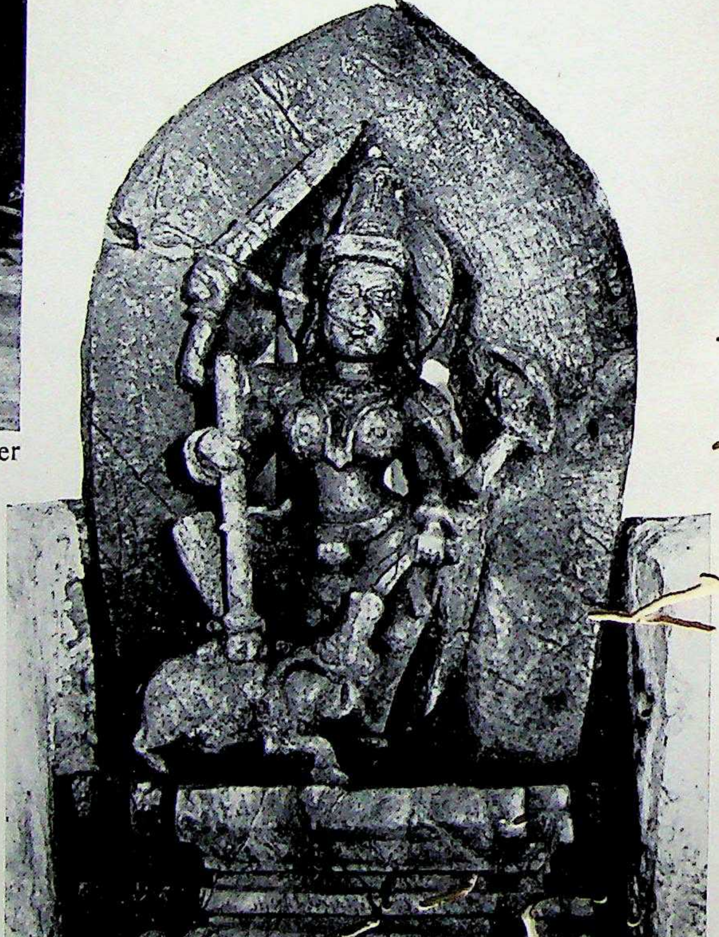

Photo: G. von Mitterw lner

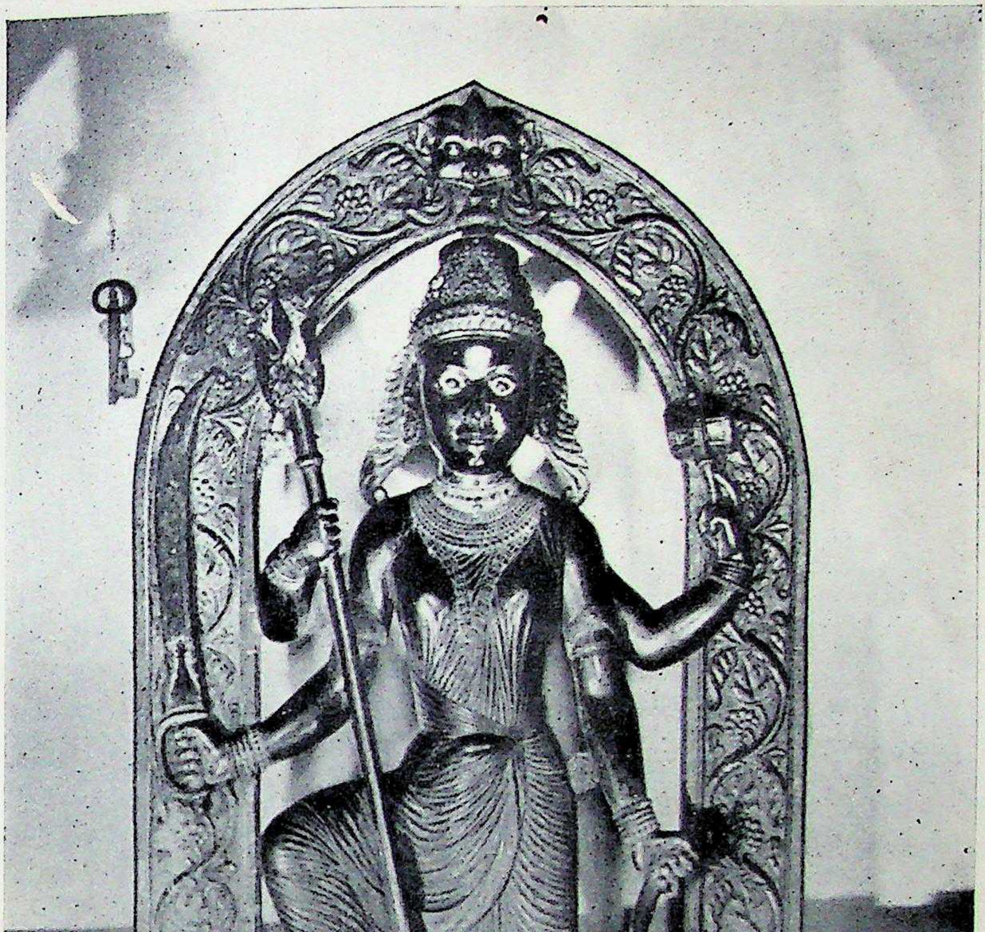

Photo: G. von Mitterwallner

Fig. 13 Mahiṣāsuramardinī, recently installed stone-image in the main temple of Morjim, Taluka of Pernem, Goa

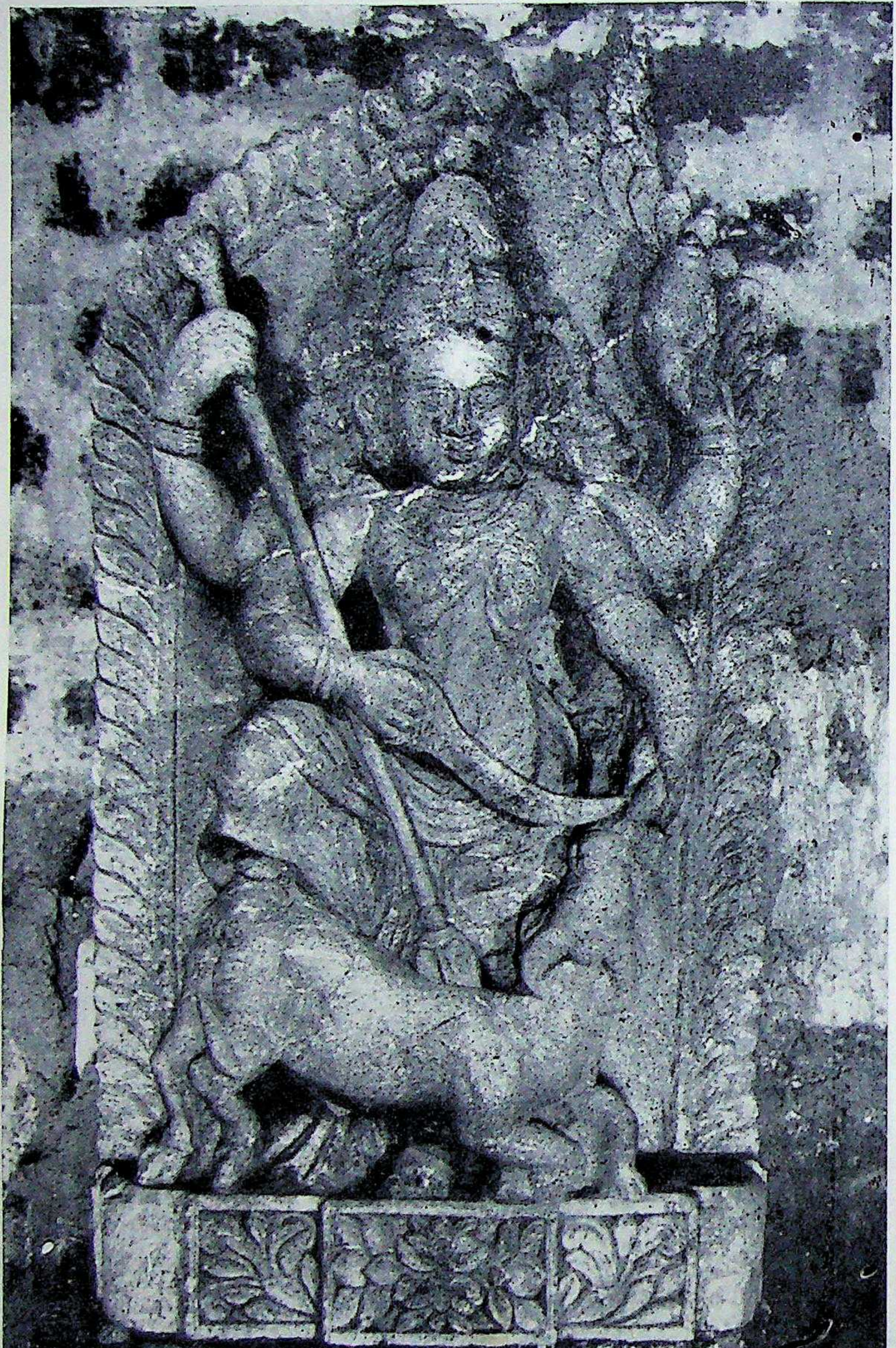

Photo: G. von Mitterwallner

Fig. 14 Mahiṣāsuramardinī, stone-image, under worship in the temple of Bhagavatī at Virnora, Taluka of Pernem, Goa. Installed in the year 1874 A. D.

of the Nagar tablet: both Goddesses display two-stringed pearl-tassels as ear-pendants and two necklaces, one around the neck and a longer one falling down between the breasts. Both are furnished with large bulging anklets and a dhotī, the end of which descends in the form of a threefold or twofold kakṣā between the legs, tucked into the belt at the waist. Hence we are of the opinion, that the terracotta tablet from Nagar of transitional style should be placed in date between the Hārītī of Kuṣāṇa time (2nd or 3rd century A.D.?) and the Pārvatī from Kauśāmbī of later Gupta time (mid-fifth century A.D.), i.e. into the fourth century A.D., not to distant in time from the Mahiṣamardinī in the courtyard of Cave No. 6 at Udayagiri, which herself has to be ranged in a relative chronology somewhat prior to the dated Mahiṣāmardinī on the facade of Cave No. 6 of the year 401-2 A.D., in other words into about the last quarter of the fourth century A.D.

Only if we accept this sequence, the evolution of the image-composition of the Mahiṣāsuramardinī representations under discussion seems to develop in logical stages: i.e. if we place the Devī of the Kuṣāṇa type, strangulating the buffalo with her left arm and crushing his spine with the right, at the beginning of the series. In the earlier phase of the genuine Kuṣāṇa type, the Goddess is not yet accompanied by the lion. In the later Kuṣāṇa stelae, however, her vehicle appears; for instance in slab No. 2317 of Mathurā (Fig. 3). Yet in this relief he does not yet serve as a footrest to the Goddess, whose left leg is not being lifted and planted on his head as in the Nagar tablet and the two Udayagiri reliefs, but placed slightly sideways in front of the lion's seated body; in other words both feet of the Goddess still remain on the ground. As next step in the sequence of the evolution a transitional type between the Kuṣāṇa and Gupta styles turns up as preserved in the Nagar tablet. Now the Devī — though still breaking the spine of the buffalo with her right hand — does not strangle him with her left arm any more, but already seizes his head by his tongue with her left hand. Nevertheless in this plaque she does not yet apply the trident, which is being introduced only in the still somewhat later relief at Udayagiri, in the one of the courtyard to Cave No. 6. In both transitional types, in the earlier Nagar plaque, yet pertaining to a greater degree to the Kuṣāṇa type and in the later rock-carving of the courtyard in front of Cave No. 6, already partaking of the flavour of the subsequent Gupta style, the lion continues to be present, now incorporated into the composition as a footstool of the Devī.

From Central India the motif of seizing the buffalo by his tongue spread to various Indian art regions, where it is found even right up to modern times. We came across several images belonging to this tongue-grasping compositional type in Goan village temples, which we surveyed from the end of 1964 to the beginning of 1967. We depict here only a few: the bronze image in a small shrine at Makirankanivada near Mandrem (Fig. 11), the wooden icon of Bhagavatī in the Nārāyaṇa Temple at Korgaon (Fig. 12), the recently installed stone-image of the Morjāī in the main temple of Morjim (Fig. 13) and the Bhagavatī of Virnora, dated by a votive inscription on the side of the pedestal in śaka 1796, i.e. 78 plus 1796 = A.D. 1874 (Fig. 14). All four are worshipped in the Taluka of Pernem, the northernmost part of Goa.

With the exception of the last example, in which the Devī is about to cut the tongue held by her left hand with a sword in her right one, the Goddess simply grasps the buffalo in the above cult-icons by his tongue, piercing him at the same time with her triśūla. The tongue is modelled realistically, lying smoothly in the hand of the Devī. It is usually pulled out to a considerable length — a long tongue being a typical characteristic of bovine animals. Hence it should not be confounded with the stiff hilt of a dagger thrust into the mouth of the animal.

Similar images occur outside Goa, too, for instance in Andhra Pradesh, at the Madhukeśvara Temple of Mukhalingam (RAMA RAO, 1966: p. 57). In the Museum of Alampur we photographed four Mahiṣamardinīs of the tongue-holding type in 1971, of which M. RAMA RAO mentions one in his booklet (1966: p. 58).

In all the above mediaeval and modern icons, the triśūla is applied as slaying weapon, whereas the grip of the tongue only seems to serve the purpose of seizing the Demon. We do not think it justified to assume that the Devī intended to kill the buffalo by tearing out his tongue, for such an act would not have caused his instantaneous death. At the most he might have bled to death after some hours only.

Ever since the transitional period from the Kuṣāṇa to the Gupta type, the Goddess has been portrayed as holding the buffalo with her main left hand by one part of his body or the other, to be able to slay him at her convenience with the weapon in her main right hand. Accordingly, we came to know already two types of this genre. *Firstly*: The Devīs of

Udayagiri in the courtyard to Cave No. 6 and on the wall of Cave No. 17, who, as we know, seize the onrushing buffalo by his tongue. *Secondly:* The Goddess of genuine Gupta type on the facade of Cave No. 6 (at the same place), who swung the buffalo about now holding him upside-down by his hindleg. A third type appears soon afterwards. It is characterized by her grasping his hinderpart by the tail, instead of by the leg, as preserved for example in the stone-image of the Museum at Mathurā (HARLE, 1970: Pl. I, Fig. 2; VIENNOT, 1971-72: Pl. XIII, 8) and in many others which follow this prototype (MITTERWALLNER, 1970: pp. 279-86, Pls. 205, 207, 208).

However, in contrast to the last-mentioned types, those of the post-Gupta and mediaeval periods no longer depict the buffalo as flung about and held by his hindleg or by his tail. In these the position of the animal has been changed again. The buffalo now collapsed in front of the Devī at her feet, only head and neck turned upwards. As might be expected, the Goddess could not seize the buffalo by his leg or tail in this position any more. Now the artist was forced to let her grasp some part of the Demon's head near her main left hand to hold him fast. She either seizes his tongue as we have seen in the examples from Goa and Andhra Pradesh or she grasps him by one of his horns, as illustrated in the carving on the northern wall of the Kailāsa at Ellora (GUPTE, 1962: Pl. CVI, below) or by the lower jaw-bone. There is a remarkably dynamic image of the Devī at Dungapur (R. C. AGRAWALA, 1961: Pl. XIX, Fig. 2) of the last-mentioned type, introduced most probably in the post-Gupta period, which has come down to us displaying this feature. It apparently had been inspired by older specimens no longer extant. In this unfinished icon the Goddess, in addition to stabbing the Demon with her triśūla, uses a sword in her main right hand raised high above her head to decapitate the Mahiṣa. Hence in the above described images the Devī does not kill the buffalo with the crushing strength of her main hands anymore, devoid of slaying weapons, but she stabs him either to death with her triśūla or beheads him with her sword.

Returning again to the representations of the Kuṣāṇa time the result at which we arrive is the following: The type of the Kuṣāṇa Mahiṣāsuramardinī differs from those of all subsequent style periods by her subdueing the buffalo without any weapons. What does this imply? Let us face the situation which is indeed a remarkable one! For it is a female deity who kills the mighty buffalo by breaking his spine and pressing his neck with such a violence that, as seen in the stone tablet of the Museum at Mathurā, No. 2317, the eyes of the animal bulge like balls from their sockets, while the Demon ejects his tongue under the strangle-hold of the left arm of the Goddess, the hand of whom is clamped into a fist between the buffalo's horns (Fig. 3). This is rather the performance of a Hercules taming the bull — than of a woman — even if she be of the nature of a mother-goddess, of which Mahiṣāsuramardinī participates.

In this connection we must ask ourselves: Is there any text from which the Kuṣāṇa artists might have drawn their inspiration?

A reference to Durgā slaying the buffalo-demon Mahiṣa is in fact contained in the Virāṭaparvan of the Mahābhārata (Mahābhārata, Virāṭaparvan, 1936: App. I, No. 4 (D), 29). But as already B. C. Mazmudar recognized, the hymn to the Goddess in this Parvan is a very late interpolation (1906: p. 356). Moreover, it is of no purport to our question, for it does not describe the fight between the Devī and the buffalo.

Contrary to the above, the said struggle has been minutely dealt with in the Devīmāhātmya, incorporated in the Mārkaṇḍeya-Purāṇa. Yet also this Māhātmya is generally believed to be a late interpolation, existing only by the 7th century A.D. (Winternitz, reprint 1968: pp. 472-73, fn. 3). Here we read in the last part of the battle between the Goddess and Mahiṣāsura, how the Devī pins down the buffalo with her foot, while hitting him with her spear. Overpowered in this manner the Asura was forced to emerge from the body of the buffalo in human form, in which shape the Goddess finally slew him by beheading him with her sword (Mārkaṇḍeya-Purāṇa, fol. 239, obv., adhyāya 80, 38-40).

It is true, this textual episode may neither be related with the type, as represented by the Kuṣāṇa artist, nor with the ones of the Gupta and post-Gupta periods, which are the main concern of this paper. The above narrative version is illustrated by a type which makes its appearance only very late in art history, at about the beginning of the eighth century, being the most detailed and ultimate type of the whole series. One of the earliest representations of this type which has come down to us is a small relief on the wall of the stairhead from the groundfloor to the first story of Cave No. 15 at Ellora (Mitterwallner, 1970: 302, Pl. 271).

But in the episode of the Devī's fight against the *anthropomorphic* *demon Śumbha*, the last of the enemies of the gods whom she vanquished, a reminiscence indeed of a close personal combat between the Goddess and an Asura without any weapons has been preserved even though only as a sort of interlude. The story runs like this: Śumbha reproached the Devī by complaining that she depended in her fight against him on the strength of others, whereupon the Goddess withdrew into herself the manifold manifestations helping her, such as the Mātṛkās, and after having destroyed the last weapon of the Asura, a hammer-like weapon, they both faced each other unarmed.

Mārkaṇḍeya-Purāṇa, fol. 255, obv., adhyāya 87, Śloka 15:	Translation:
cichedāpatatas tasya *mudgaraṃ niśitaiḥ śaraiḥ* || *tathāpi so 'bhyadhāvat tāṃ* *muṣṭiṃ udyamya vegavāṇ* || 15 ||	"With her sharp arrows she (the Goddess) clove the mallet of the assailing (Śumbha). Even then he ran up towards her with speed having lifted his fist."

It strikes us that the action circumscribed by the verb abhi-dhāv in stanza 15 b), meaning "to run up towards" or "to rush upon", is exactly illustrated by the Kuṣāṇa artist in the dashing movement in which the buffalo assails the Goddess.

16	
sa muṣṭiṃ pātayāmāsa *hṛdaye daitya-puṅgavaḥ* || *devyās taṃ cāpi sā devī* *talenorasy atāḍayat* || 16 ||	"The hero of Daityas brought down his fist on the heart of the Goddess. The Devī, too, struck him with the palm (of her hand) on the breast."
19	
niyuddhaṃ khe tadā daityaś *caṇḍikā ca parasparam* || *cakratuḥ prathamaṃ siddha-* *muni-vismaya-kārakam* || 19 ||	"Then the Daitya and Caṇḍikā first made a (close) fight against each other in the sky, causing astonishment to the Siddhas and Munis".

According to the above stanzas the personal duel apparently had changed from a pugilistic fight into a wrestling one, which again reminds us of the Kuṣāṇa representations illustrating the combat between the Devī and the buffalo.

20

tato niyuddhaṃ suciraṃ
kṛtvā ten Āmbikā saha ||
utpāṭya bhrāmayāmāsa
cikṣepa dharaṇī-tale || 20 ||

"Then after having made a (wrestling) fight with him for a very long time, lifting him up (*utpāṭya* or *utpātya*?) Āmbikā whirled him round (and) flung him on the surface of the earth."

22

tam āyāṃtaṃ tato devī
sarva-daitya-janeśvaram ||
jagatyāṃ pātayāmāsa
bhittvā śūlena vakṣasi || 22 ||

"The Devī then felled the advancing Lord of all the Asura-folk on the earth, after having pierced his chest with her spear."

Reading the stanzas 20 and 22 we cannot help recalling the type of the Gupta period, mainly as conceived on the facade of Cave 6 at Udayagiri (Fig. 6), in which the Goddess still holds the Demon by his hindleg after having thrown him on the ground prior to piercing him to death with her śūla.

Hence also in this textual tradition the Devī applies a weapon to bring about his death. In the genuine Kuṣāṇa type, however, the spear or trident or knife is never held by the Goddess in her main right hand, but instead it is depicted in a sort of waiting-position in her secondary upper right one only. Consequently the Kuṣāṇa type belongs to a phase in the evolution of this scheme which has come down to us merely in figurative representations and not in preserved texts. But we may presume that such a concept existed in early days. The Kuṣāṇa artist must have had a similar weaponless combat in mind when sculpturing these images. Only in the advanced Gupta period the early art tradition gradually seems to have been replaced by a later one, portrayed in the subsequent types, which we shortly described above; and in these later reliefs the Devī is shown employing the trident, spear or sword with which she kills the Demon.

A clue to the old tradition is also furnished by one of the epithets of Durgā, in which she is called *Mahiṣāsuramardinī* = "the crusher of Mahiṣāsura". For one of the main significations of the verb *mṛd* is "to press violently" or "to crush". And precisely this act of squeezing the mighty buffalo to death in a close personal fight — *not stained by blood* — the Kuṣāṇa artists represented in a most convincing way.

(This paper is based on a lecture delivered before the Symposium on Kuṣāṇa Art in Mathurā at the occasion of the Centenary Celebrations of the Museum from 10th to 14th January, 1974).

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SOCIAL BEHAVIOUR IN FLYING FOXES

BY

GERHARD NEUWEILER (Frankfurt/Main)

Most visitors to India cannot escape to see Flying Foxes. Those observing them as they slowly fly high above the roofs of a busy city in a quickly dimming evening sky may mistake them for crows. Yet these are the largest flying mammals belonging into the systematic order of bats. Bats are one of the most successful groups of mammals consisting of more than 800 species foraging on such differing diets as flying insects, frogs and mice, blood of cattle, fruits, fruitjuices, nectar and pollen of blossoms. Ability of flight, diet and abundance in tropical countries characterize them as the "birds of the night". To Europeans bats are only known as small insectivorous animals, but in South-Asia and Australia an older group of bats, the Megachiroptera or Flying Foxes, reaching a wing spread of 1.7 m, persists. These huge bats mainly live on fruits and do not use echolocation for orientation during their nightly activities as the small insect hunting bats do. Actually Flying Foxes do not eat the fruits but chew them up, gulp the juice and spit out the squeezed out residues. This led to the common belief of local people that Flying Foxes do not have an anus. Shortly before sunrise they return from the orchards to their resting trees, e.g. high Banyan-trees, where they in large numbers spend the daytime wrapped into their wing membranes, hooked up by their claws and stringed on the branches and twigs like dark-coloured fruits. Thus during day-time Flying Foxes live a social life and as in other mammalian communities certain rules have to govern the individual interactions unless chaos would result and the chance of survival of the species be impaired.

In 1963 as a Government of India Scholar I came to Madras University to study the social behaviour of these peculiar mammals. When I was introduced to the Registrar of the University he told me that before World War II he happened to observe a large colony of Flying Foxes in the backyard of Woodlands Hotel right in the center of Madras. When I inspected the indicated place some 25 years after his observation, I found a colony of 800 to 1,000 Flying Foxes still living there on three Banyan-trees. However, the Flying Foxes did not reside in the nonexisting backyard of the hotel but in the neighbouring garden of Amir Mahal, the palace of the former Prince of Arcot. The palace compound was enclosed by high walls and the only entrance watched by grim soldiers. By the help of the Registrar, after a few weeks the Devan of the Prince received me and kindly allowed me to daily visit the garden. Thus I could come close to the trees but not close enough to the Flying Foxes: I stood on the ground equipped with binoculars, camera and taperecorder whereas the bats hang up to 20 m above me within the foliage of the trees. This is an awkward situation for a serious observer of animal behaviour.

It was decided to built a 50 feet high observation tower next to the Flying Foxes and after another few weeks of hard bargaining the tower was completed at reasonable costs. Yet in the first night of its existance the tower did not resist to a mild breeze and was found collapsed within the trees on the next morning. Within another few weeks and at some extra expenses a second stronger one was built which persisted throughout the observation time, protected by a watchman against a slow and irreversible transformation of the wooden structure into firewood.

When all this was finally achieved the Flying Foxes became so frightened that they left their permanent residence and flew off to an escape quarter across the garden walls. But luckily enough these trees happened to belong to the garden of the Madras Wild Life Office where I quickly got the permission to enter and I conveniently could observe the colony from the flat roof of the building. Through all these excellent circumstances I could observe the activities of the colony either in the garden of Amir Mahal or of the Wild Life Office right in the center of Madras which was mandatory since I only had a bicycle for transportation of both observer and equipment. Though most of the time within the first six months was spent coming close to the Flying Foxes, I also learned that a colony of Flying Foxes uses certain trees as a permanent quarter for decades but the colony additionally disposes of one or several escape quarters where it stays for days or weeks when seriously disturbed at the permanent main quarter.

The daily activities of the colony are sharply marked by the evening departure to the foraging grounds. Exactly 25 minutes after sunset the first bats fly away. Within half an hour the colony disolves into small groups of 10 to 30 Flying Foxes flying in different directions and the huge daytime crowd is split into many seperate foraging packs. In contrast to the precisely timed and synchronous evening take off the Flying Foxes return singly or in small groups dispersed over more than two hours until 6 o'clock a.m. From my lofty hut watching the Flying Foxes gliding like black shadows from a faint dawn into the dark trees while the sleeping city was hushed except for the continuous melodic Koran recitings of students in a nearby mosque, was one of the most enchanting and enduring impressions of my Indian adventure.

In the morning the Flying Foxes return exactly to the same site of a branch they had left the evening before. Thus each of the nearly thousand individuals had its own distinct place within the tree. Grown up males strictly see to it that each one stays at its place and those roaming about — especially if they are young males — are immediately punished by bites and scars inflicted by the sharp claws of the thumb.

During daytime irregular periods of sleeping alternate with periods of intense cleaning, especially the vast, sensitive but vital wing membranes have to be licked several times a day to prevent parasitic infestations. Even the teeth are raked by the widespread claws of one foot. Yet inspite of close contacts no mutual grooming is ever accepted, not even by an intensively courted female. Though living in densely packed colonies during daytime Flying Foxes continue to be individuals.

Only the young males have involuntarily to render a special service to the entire colony. These one year old youngsters are not allowed to hang on the higher and safer sites of the tree and have to be satisfied with the lowest branches where they are exposed to the only relevant enemy of Flying Foxes, man. These "lowest" and most endangered members of the colony are most sensitive to any disturbance. If a colony has made some bad experiences with man it suffices that somebody approaches the tree and the young Flying Foxes in the lower branches hastily crawl to the end of the twigs and silently take off. This specific silent take off is the alarming signal for the complete colony: within a minute several hundred Flying Foxes are in the air circling for some time above the tree and then slowly returning or flying off to their distinct escape quarters. This recruiting effect is never observed when a Flying Fox flies off shrieking and queeking in escape of another attacking bat. Thus silence of the departure seems to be a hallmark of the alarming signal. By this alarm system the grown up reproductive part of the colony, being important for the continuance of the species, is effectively protected by those members of the society not taking part in that vital function.

As is well known from many human societies, hierarchy tranquillizes their members. Within a Flying Foxes' colony a strict vertical hierarchy prevails. It is established among the males. On the highest branches on top of the tree the strongest males reside, below them the less strong ones and the weakest, lowest ranked males have to content themselves with the lowest branches of the tree. For weeks and months especially the highest ranked males, enjoying the safest places, stubbornly stick to their resting site and vigorously defend it against any intruder by a specific attacking posture and menacing snarling sounds. Threatened by these attacking intentions the troublemaker usually flees with excited shrieks taking refuge in the lower branches where it actually belongs to according to its rank. By reacting to intentions of the high ranked members of the society serious fighting within the colony is effectively prevented. Within this vertically organized and hierarchically structured distribution of the males the females are allowed to move more freely since each male accepts any mature female as its neighbour. They benefit from the rank of the male next to them. Therefore in the higher branches of the tree the females also prefer to stick to a distinct place for months.

During an annual cycle a complete seperation of the sexes never occurs, however, during the rutting season from end of May to October the bachelors segregate from the reproductive part of the colony and occupy a neighbouring tree in the garden of Amir Mahal. No true pair-bonding takes place since a male will accept any female within its reach as a partner. Even in July and August, when the females are highly receptive sexual activity always is started by an approaching male, the female remaining passive or even rejecting. The male starts sniffing at the female's fur and tries to lick her genital regions. Especially intense licking makes her more docile. Then the male tries to copulate. Yet he rarely succeeds at the first trial since the female always tries to reject him by preventing a suitable copulating posture accompanied by intense defensive shrieks. After a frustrating trial the male reacts vigorously by long lasting, incredibly loud, donkey-like protest cries yelled directly into the partner's ear. These protest cries are also used to keep the female next to the male when she tries to sneak away from him. Such sound-attacks are very effective in intimidating the females and making them more docile. Commonly only after several trials and subsequent intimidations a successful copulation is achieved. Thus the enduring passive or rejective attitude of the females turns sexual behaviour among Flying Foxes into an aggressive affair otherwise unknown among mammals.

From July to September nearly every morning a strange effect could be observed in the colony: within the silent, sleeping crowd a single male would start to approach a neighbouring female and try to copulate unavoidably leading to the loud donkey-like protest cries. These marked shouts of a single male then initiates other males to approach females next to them. Thus within five minutes a sleepy and silent colony is transferred into a copulating and deaengly roaring mass of several hundred Flying Foxes. After 20 to 30 minutes, when copulation has been achioved the noise slowly subsides and the colony returns to a peaceful sleep. This is a striking example of so called "emotional transfer", an important mechanism to synchronize activities of all members of a society to the same end; provided a certain level of sexual arousal exists, copulatory activities in Flying Foxes are synchronized by vocalization. The biological sense of synchronized sexual behaviour may be found in the correspondingly synchronized birth dates in the colony minimizing the time to be spent by the colony for raising the young breed.

By increasing rejective behaviour of the females the rutting season recedes in October. In January the pregnant females congregate in the highest and safest branches of the tree whereas the high ranked males retreat to lower parts or another tree. In February within this safe area undisturbed by males the young ones are born. Each female gives birth to one child. While continuously whimpering the newborn immediately searches for the nipples of the breasts which in Flying Foxes are found in the arm pits. In case the newborn does not utter the whimpering sounds the dry-licking movements of the mother slowly change into biting and chewing and the newborn is eaten up, thus stillborns or otherwise defective births are reabsorbed.

By its teeth cramped around the nipple and the large claws of its feet clunged into the fur, the newborn is firmly attached to the mother and in the first weeks of its life it never leaves that secure place. During daytime the young ones can be rarely seen, since they are mostly covered by the wing membranes of the mothers. Only when cleaned by their mothers they are occasionally exposed to the daylight. At the evening departure the young ones are carried along by the mothers firmly attached at the nipples and the fur below the flapping wings. In May only the offspring becomes more independent. During daytime hanging at the mother's fur they make clumsy flying exercises and cautiously crawl along the twigs immediately taken back by their mother if they go away too far.

In the evenings the young ones are no longer carried along to the foraging grounds. They have to stay behind in the tree and continue their flying exercises flapping from branch to branch, circling around the tree and finally flying to other trees. This busy evening activity of some 100 youngsters goes on in complete silence. In the morning the returning mothers immediately take back their own young one. Mother — offspring contact is first established at distance by plaintive calls of the child to which the individual mother replies by a similar searching call. Alternative calling between both continues until the mother is close to the young one and by olfaction she finally verifies if she has found her own offspring.

The elder youngsters start playing with their mothers. These mutual plays containing aggressive intentions are more and more rebuffed by the mothers with increasing age of the offsprings and in August the young ones are no longer accepted and have to look out for their own places within the colony. Yet exclusively between young males playing continues. During summertime everywhere in the colony one may observe pairs of young males playing intensively for half an hour or so. In marked contrast to all other social interactions within the colony playing goes on without a single sound uttered. The plays contain all elements of aggressive, defensive and sexual behaviour and apparently serve to practice these actions for later grown-up life. In play these actions are always stopped before resulting in a real effect, yet in the following weeks one or both of the playing partners start to attack or defend seriously more and more often. This is accompanied by an increasing number of sounds and finally playing stops forever. By these plays also the first ranks within the group of young Flying Foxes are established.

The behaviour observed in the colony of Flying Foxes in Amir Mahal shows that this community is weakly differentiated. It is a group of individuals coming together for the sake of protected sleep, protection against enemies and, perhaps most important, for reproduction. The vertical hierarchy of the colony is entirely based on the physical fitness of the males. Ritualized action patterns typical for more developed animal societies are as yet absent characterizing the colony of Flying Foxes as a still simple and unsophisticated mammalian society.

Nonbiologists have an unexplainable and unappeasable longing for interpreting "mother" nature as a master for life. I cannot see anything to be learned from the male dominated society of Flying Foxes except for one thing: Fundamental needs as protection, reproduction, etc. are the cradle of any highly structured mammalian as well as human society. When these basic elements change, as they do in human societies, the structure and the rules within a community have to change as well. Thus looking back at the models of our predecessors will certainly lead into the wrong direction.

THE ORIGIN OF THE VEDIC GOD BṚHASPATI

BY

HANNS-PETER SCHMIDT (Leiden)

The Vedic god Bṛhaspati or Brahmaṇaspati seems to be an easily comprehensible deity. The second form of his name, "lord of the ritual poem", defines him as the deity of the priesthood, and prima facie there is no reason to doubt the validity of this interpretation, which has been given since the time of the Ṛgveda. Apparently the word *brahman* is nothing but the substitution of the word *bṛh* which had become obsolete. Both words seem to be etymologically related (though this is by no means to be taken for granted). In the Ṛgveda both forms of the name are used promiscuously. The older form, Bṛhaspati, has been preserved throughout Indian literature, and Brahmaṇaspati can be considered as a paraphrase of the original name.

Inspite of his archaic name Bṛhaspati does not belong to the gods inherited from Indo-Iranian times. He has no counterpart in the Avesta, just as the word *brahman* is lacking in the Avesta. The station of the god Bṛhaspati in the Vedic pantheon cannot have been a very solid one since in the Brāhmaṇa texts he is distinguished from the other gods by his human origin; he is considered to be the Ṛṣi and forefather of certain priestly families in whose family-tree he does not even occupy the first, but only the second place after the Ṛṣi Angiras.

In a single Vedic myth Bṛhaspati plays a role — in the Vala myth which is predominantly concerned with the release of the cows and the dawns from a rock cave. Even in this myth Bṛhaspati occupies a peculiar position since he shares the role as leader of the priestly band, the Angirases, with Indra. In the later texts Bṛhaspati serves Indra as purohita, a priestly office not yet known in the older parts of the Ṛgveda. The weapons used in the Vala myth are of priestly character — the cave is opened by the magical power of the ritual poems and songs. The appearance of Indra in this context is surprising all the more since he never uses his proper weapon, the *vajra*, but only acts as the leader of the Angirases and is himself chanting hymns. This behaviour of Indra is, according to some scholars, due to the fact that originally he had no part in the Vala myth and was only secondarily introduced since the vedic poets had the tendency to attribute all heroic deeds to Indra. His otherwise unheard of priestly conduct would thus be explicable as a borrowing from the original hero of the myth, Bṛhaspati.

It is one of the purposes of the present study to disprove this theory. But before entering into the discussion of the problems connected with the Vala myth, a few words must be said about the nature of the name of the god Bṛhaspati. According to the opinions voiced by several scholars, there are at least four possibilities of interpretation. 1. The god Bṛhaspati was conceived as an independent god, the protector of the ritual poetry and of the priestly class. 2. Bṛhaspati is originally a name or an epithet or a form of the god Agni who in the Ṛgveda is the most prominent priestly deity. 3. Bṛhaspati is a new god who as the representative of the priesthood adopts gradually some of Indra's deeds and attributes. 4. Bṛhaspati is originally a human Ṛṣi, who has been completely deified in the Ṛgveda, whose human origin is however thrown into bold relief in the later Vedic literature.

Generally, Bṛhaspati is considered to be a secondary god since the names of gods formed with the word *pati* "lord" are comparatively late products. This is not entirely true since we have names of deities formed with *pati* in other Indo-European languages which points to the conclusion that such formations were already known in prehistoric times. But it must be stressed that none of the vedic *pati*-gods can be traced back to Indo-Iranian, not to speak of Indo-European times.

The reason for this seems to be that the *pati*-gods never were a distinct class of gods, but rather took their origin from divine epithets. This can at least be shown for the Vedic *pati*-gods. Beside Bṛhaspati we find as independent *pati*-gods only Kṣetrasyapati, the lord of the field, and the isolated Rajasaspati, the lord of space. All the other formations of this type are either only epithets of other gods or they are used sometimes as names of apparently independent gods and sometimes as epithets of other gods. Thus Vāstoṣpati, the lord of the abode, is twice an epithet of Soma, once of Tvaṣṭṛ; only in later texts he is attested as an independent deity. Prajāpati, the lord of progeneration or creation, who plays such a prominent part in the speculations of the Brāhmaṇa texts, is in the Ṛgveda an epithet of Savitṛ; only in the tenth maṇḍala he appears in his later function as creator god. Vācaspati, the lord of speech, later often used as an epithet of Bṛhaspati, is in the Ṛgveda used for Soma and Viśvakarman, once he is an independent deity. From this survey it becomes obvious that the *pati*-gods were a poorly developed class of deities who most probably all were derived secondarily from divine epithets. Only Bṛhaspati, Prajāpati, Kṣetrasyapati and Vāstoṣpati had a more than passing existence. All the other ones are momentary gods who, hardly conceived, fell into oblivion again. Prājapati owes his rise to ritual and philosophical speculation. In the case of Kṣetrasyapati and Vāstoṣpati the reasons were different: they were presumably epithets of several perhaps local deities who changed from place to place and from time to time so that it was safer to call them by their epithet than by their proper name since it was easy to make a mistake in this respect. I think of the example furnished by the so-called Vāstoṣpati sūktas in the seventh maṇḍala (54-55). Here Vāstoṣpati is actually an epithet of Soma. Soma as the moon is the lord of the abode in the night, and it is to him that the lover addresses himself when he comes to meet his sweetheart. In other cases the identity of the lord of the abode might not always have been so clear. As e.g. in the case of building a house at a place with whose gods and spirits one is not yet familiar, or in the case of lords of the field who may change with the seasons. It is easily understandable that such epithets could, in the course of time, become the names of independent deities.

These parallels suggest a similar origin of Bṛhaspati. Prima facie it cannot be said whether we have to reckon with an epithet of gods or of men. Either is possible — Bṛhaspati can have been the designation of the function of another god — e.g. Agni — which was isolated and made the domain of an independent deity, or Bṛhaspati can have been a deified human priest. The latter is supported by the later Indian tradition which, however, is secondary in so many other respects, too, that we cannot take it as a starting point of our investigation. We rather must analyse the facts about Bṛhaspati which are furnished by the Ṛgveda.

There are three or four instances where the word *bṛhaspati* is used as a designation of Agni. In the case of Agni it is difficult to decide whether it is an epithet or whether Agni is identified with the god Bṛhaspati. For Agni is frequently identified with different gods. This is probably due to the fact that Agni is, beside Soma, the only Vedic god who is actually visible and present on the place of sacrifice, and accordingly the other gods are thought to manifest themselves in the sacrificial fire.

In some sūktas the word *bṛhaspati* is used as an epithet of Indra: This observation is not as new as it may sound. Actually it was in two cases already made by Sāyaṇa (1, 62, 3. 2, 30, 4) who, however, was unable to offer a satisfactory explanation. In the sūkta 10, 42 Indra is in five verses addressed once by his proper name and once by an epithet like *śūra*, *śakra*, *maghavan* and *puruhūta*. When in another verse the word *bṛhaspati* occurs in the same position as the epithets mentioned, it can be presumed that it is an epithet, too. In another sūkta (5, 42, 4) Indra is asked to lead the priests together with cows and with the ritual poem, i.e. he is to provide a *dakṣiṇā* for them and at the same time to inspire them with a new song. In three other verses of this sūkta (7-9) it is *bṛhaspati* who is asked to provide them with riches. If, in this sūkta, *bṛhaspati* were an independent god, the protector of the priesthood, it would be inexplicable why Indra and not Bṛhaspati is asked for inspiration. Again it is rather obvious that *bṛhaspati* is to be taken as Indra's epithet.

Most significant is the Saramā-Sūkta (10, 108). In the course of the dialogue between Saramā and the Paṇis it would be absurd and contradictory if the word *bṛhaspati* were taken to refer to the priestly god and not to Indra. Saramā had rejected the offer of the Paṇis to make Indra their cowherd and had threatened that they would be slain by Indra. The Paṇis reply they would not give their cows without fight. Saramā answers that *bṛhaspati* would have no mercy on them. If by the word *bṛhaspati* another god but Indra were meant, Saramā would have contradicted herself by admitting that Indra did not possess the power she had attributed to him earlier.

With Saramā we are in the context of the Vala myth, and we must enter into a discussion of this myth in order to find out whether Indra was originally called *bṛhaspati* because he had priestly functions or whether in a few cases he was secondarily identified with the god Bṛhaspati.

In the majority of the hymns of the Ṛgveda Indra and the Angirases are the heroes of the fight for the goods hidden in the mountain cave of Vala. Obviously the myth was known to most of the Ṛgvedic poets only in this form. The instances where only Indra or only the Angirases are mentioned do not warrant the conclusion that there were versions of the myth in which the deed was attributed either to Indra or to the Angirases alone. When Indra is acting alone this is mostly in contexts which contain enumerations of his heroic deeds and do not give any details of the fight. The Angirases apparently act alone in a number of Agni, Uṣas, and Soma sūktas; but these deities often assimilate functions of Indra whose absence must accordingly be attributed to this fact, and it cannot be concluded that Indra was originally foreign to the Vala myth.

The weapons with which the mountain cave is opened are of purely priestly nature: poems and songs which owe their efficacy to the magical power of truth (*ṛta*). They are easily understandable as the weapons of the primordial singers, the Angirases. But apparently they do not fit Indra at all who is usually interpreted as a berserk-like hero who, it is true, occasionally uses cunning and shyness, but who does not possess the spiritual and intellectual qualities which distinguish the priesthood.

However, once we consider the relation between Indra and the Angirases in the Vala myth, this picture must be revised. The Angirases act as the priests of the royal sacrificer Indra. They receive the goods conquered by Indra as gifts, as the *dakṣiṇā* for their service at the sacrifice. As the king, however, Indra is not only the munificent patron of the priests, but also their leader who guides their songs and himself chants songs. In this function Indra bears the epithets *ṛṣi*, *kavi*, *vipra* and *brahman* which are usually employed only for priestly singers and poets. Indra is called *aṅgiras* and even *aṅgirastama*. As I shall argue presently, the word *aṅgiras* was originally not a proper name of a priestly family but an appellative meaning something like "singer", only secondarily it became the name of a priestly clan. From this evidence it can be concluded that Indra was conceived of as a priest-king. This result is not so surprising as it may look at the first glance — in other archaic cultures the priestly functions of the king are well attested, and even in the closely related Iranian civilisation the princes had priestly duties. In the Avesta the word *kavi*, which in the Veda has become a purely priestly designation, is the title of princes. And the Achaemenian, Parthian and Sassanian kings are known to have officiated as head priests at their public sacrifices.

Now the question arises whether the priestly function which Indra occupies in the sacrifice leading to the opening of Vala can be attributed to the human Vedic king, too. The Iranian parallels suggest that the Vedic king, too, may have been a priest-king. The sacrifice of Indra and the Angirases was the prototype of the terrestrial sacrifice as appears from many passages where primordial and present sacrifice are identified. And we can expect that the king impersonated Indra in the sacrifice. The identification of the royal sacrificer with the king Indra is, after all, well attested in the later ritual of the Brāhmaṇa texts. The evidence furnished by the Ṛgveda is scanty and not easily recognizable. The most obvious fact known about the Ṛgvedic kings is that they are munificent patrons, givers of *dakṣiṇās*. Most of the royal functions must be inferred from mythological contexts which are not concerned with the human king but with gods. It would be therefore not surprising if the Ṛgveda did not furnish any evidence for a human king in priestly function. The few instances where kings actually are described as priests are accordingly all the more valuable.

In order to discover and to properly evaluate this evidence we must go a little deeper into the problem of the original meaning of the word *aṅgiras*. Since Atharvavedic times, if not already earlier, the Angirases are a Brāhmaṇa clan which is derived from the eponymic Ṛṣi Angiras. This eponymic Ṛṣi is, however, not yet known in the Ṛgveda, at least not in its most ancient parts. The word *aṅgiras* in the singular is predominantly used as an epithet of the god Agni, and though the instances do not allow a definite conclusion regarding the meaning of the word, it is striking that Agni is called *aṅgiras* frequently in contexts where his priestly functions, especially those as *kavi* and *vipra* are described (cf. 1, 31, 1.2. 1, 127, 2. 8, 102, 17) or where he is the receiver of poems and songs (cf. 4, 3, 15. 5, 8, 3. 10, 7. 8, 74, 11. 84, 4. 1, 75, 2. 8, 43, 27). These facts suggest that *aṅgiras* had a meaning related to that of *kavi* and *vipra*. *aṅgiras* in the plural mostly refers to Indra's priestly assistants in the Vala myth. From these instances no immediate conclusions can be drawn as to the meaning of the word. It would be possible that the Vala myth was the property of a a single priestly clan. But doubts arise when we find that twice the vasiṣṭhas call themselves *aṅgirasaḥ* (7,42,1. 52,3). The vasiṣṭhas never belonged to the clan which adopted the name Angiras. They most probably used the word *aṅgiras* in its appellative meaning. One of the passages is rather suggestive: it juxtaposes *aṅgiras* with *brahmán*, and it may be assumed that the two words are complementary — *brahmán* is the poet who formulates the ritual song, and aṅgiras the singer who chants it.

As we have seen Agni is the *aṅgiras* par excellence, and we must ask what the relation between him and the human *aṅgirasaḥ* was. In later times, e.g. in the Purāṇas, the eponymic Ṛṣi Angiras was considered to be a son of Agni. This Ṛṣi Angiras has obviously been derived from the god

Agni Angiras. In the Ṛgveda the Angirases are once called the sons of Agni Angiras (10, 62, 5), but they are also the sons of heaven (3, 53, 7. 4, 2, 15. 10, 67, 2). This fact shows that no physical parentage is meant. How we have to understand the relation appears from verses where the mother Uṣas is mentioned beside the Father Heaven: Here (4, 2, 15-16) it is said that the priests want to be born from Uṣas as the seven *viprāḥ*, the sons of heaven, the *aṅgirasaḥ*. The meaning of this wish is that the present Gautamas want to become like the primordial singers themselves, i.e. the mythical situation is to be reiterated in the ritual. In the next stanza we hear: "As our fathers, the far, the primordial ones we want to pant the truth, o Agni — they, indeed, the reciters of solemn sayings, attained the lustrous one, the vision, cleaving the ground they uncovered the ruddy cows." The word "the lustrous one" (*śuci*) is used in order to establish a connection between the "vision" (*dīdhiti*) and the "enlightenment" through the rising dawn. It is obvious that the priests are here not *aṅgirasaḥ* by birth, but that they become *aṅgirasaḥ* through the enlightenment of Uṣas. The enlightenment is a second spiritual birth which enables the priest to repeat the deed of the primordial singers.

In another sūkta (1, 71, 5.8) the birth of the *aṅgirasaḥ* is connected with the myth of the incest of Father Heaven with his daughter, and Agni makes the *aṅgirasaḥ* be born from the semen which is scattered on the earth. Here again we have the double parentage of Dyaus and Agni. A similar account is given in the Nābhānediṣṭha Sūkta (10, 61, 5-9). Although in this case the descendence from Agni is not explicitly stated, the author presupposes it when he makes Nābhānediṣṭha say in his vision: "This is our highest origin, and also his (Agni's); I was only born later as the somaniest",. With the highest origin Father Heaven is meant; in the lineage Nābhānediṣṭha is later born, i.e. he considers Agni as one of his forefathers. Usually the Nābhānediṣṭha Sūktas are understood as referring to Nābhānediṣṭha's change from the Kṣatriya to the Brāhmaṇa class. This interpretation is, however, very improbable for several reasons. Though Nābhānediṣṭha asks to be received into the fold of the *aṅgirasaḥ*, this does not mean that he becomes a member of the Angiras-family (which did not exist yet) or a professional priest, it rather means that he is inaugurated in this function as a priest-king. This assumption is corroborated by the fact that in the Nābhānediṣṭha Sūkta we meet with another king in priestly function: This is Vaitaraṇa who is on the one hand called *vipra* "inspired singer", on the other *sūri* "munificent patron". Since

Nābhānediṣṭha is called *sūri*, too, we have no reason to assign to him another place than to the king Vaitaraṇa.

My interpretation of the Nābhānediṣṭha episode has a parallel in a mantra from the Viśvāmitra Maṇḍala (3, 53, 7). Here the patrons of Viśvāmitra, led by the king Sudās, are called *imé bhojā́ ángirasaḥ .. divás putrā́saḥ* "nourishers, *angirasaḥ*, sons of heaven" who give gifts to Viśvāmitra. The most probable explanation of Sudās's being called *aṅgiras* is that he, like his prototype Indra, is conceived of as the royal leader of the priests.

From the later ritual we can adduce the example of the Rājasūya where the king is explicitly proclaimed *brahmán* (e.g. Taittirīya-Saṃhitā 1, 8, 16). And more generally every sacrificer is consecrated as a Brāhmaṇa (Śatapatha-Brāhmaṇa 3, 2, 1, 39-40), and during the sacrifice he is to be addressed as a Brāhmaṇa though he be a Rājanya or a Vaiśya (ibid. 13, 4, 1, 3). I think that here we have a relic of the ancient state of things: Originally the king or prince who in the primitive society was probably the only one who offered the complicated and expensive Soma sacrifice acted himself as the chief priest.

The priestly function of Indra in the Vala myth has thus led us to the discovery of a hitherto unknown trait of Ṛgvedic kingship. We must now try to explain how the god Bṛhaspati, to whom after all twelve sūktas of the Ṛgveda are dedicated, came into being and why he gained such prominence.

The comparatively few instances where the god Bṛhaspati appears in the Vala myth do not warrant the conclusion that he was the original hero of the fight. On the contrary, it can be shown that the only sūkta in which he alone is mentioned as the vanquisher of Vala (6, 73) is a patchwork of ideas and epithets borrowed from Indra, Agni and the Angirases. Bṛhaspati appears only occasionally with the Angirases alone, and then he adopts functions which are actually Indra's: He helps to get the *dakṣiṇā* (10, 68, 2). In the other, more numerous cases, Bṛhaspati is the leader of the Angirases beside Indra, with whom he occasionally shares the epithet *maghavan* (2, 24, 15. cf. 12) or along with whom he is implored for cows, for the *dakṣiṇā* (10, 67, 8). But on the whole his relation to Indra is the same as that of the Angirases — he serves Indra as priest but is not himself the sacrificer. Just as the Angirases he praises Indra (10, 67, 1), on the other hand he attends to it that Indra is properly praised (2, 24, 1).

His position is ambivalent: On the one hand he sometimes acts as if he were the proper hero of the myth, on the other hand he is a kind of mediator whose task is to make the song succeed which is addressed to the proper hero, Indra. But it must not be overlooked that Indra himself inspires the priests who praise him (6, 35, 3), thus making Bṛhaspati's mediation virtually superfluous. When Bṛhaspati as the leader of the Angirases appears at the side of Indra, nothing to be done is left for Indra. Just like the Yajamāna of the later Soma sacrifice he only acts through the agency of the priests. The conclusion may be drawn that the god Bṛhaspati is an intruder in the Vala myth. This is made probable by the testimonies adduced earlier — Indra himself acts as a priest and bears himself the epithet *bṛhaspati*. It is hardly conceivable that he should have borrowed the functions and the name of the god Bṛhaspati. On the contrary, the emergence of the god Bṛhaspati can only be explained if we assume that the divine king Indra in whom the priestly function was combined with the royal function was in the course of development divested of his priestly function. In other words: Indra's epithet *bṛhaspati* was split off and personified as a separate independent deity who took over Indra's priestly function. This development will have taken place when the Vedic king relinquished his priestly prerogatives and transferred them to a professional priest. The reason for the king's withdrawal from his priestly duties was, at least partly, the specialization and growing complication of the ritual technique which made it unfeasible to continue any longer the combination of priestly and royal power in one hand. This event was presumably simultaneous with the consolidation of the class or caste system which is gradually emerging in the time of the Ṛgveda and was probably finally established by the end of the Ṛgvedic period.

It should not be left unmentioned that the theory outlined above has not remained unchallenged. J. GONDA (1973 and 1974) rejects it altogether. He wants to modify my suggestion that the lack of internal repetitions in the Bṛhaspati-hymns can be explained by assuming that the god was introduced into the Vedic pantheon at a late date: Bṛhaspati may have been made an object of worship only at a late date. His remarks on the antiquity of the *pati*-gods in general (1973: 179. 1974:313) do not offer any explanation as to why the in his opinion independent divine priest-and *purohita*-figure Bṛhaspati should have remained outside the circle of the gods worshipped at any time. When he rejects my hypothesis that the king at one time relinquished his priestly prerogatives to a professional priest, he bases his criticism on the lack of direct evidence (1973: 178). Such evidence is hardly to be expected; changes like this did not take place by recorded constitutional amendments or reforms. I am under the impression that implicitly Gonda doubts the justification of my historical inquiry altogether, and accordingly it seems to be idle to enter into a detailed discussion of the objections he raises against my attempt at finding relics of an older state of affairs in the Ṛgveda. Where I tend to see discrepancies explicable on the premise of historical development, he tries to harmonise the whole material.

In her article on the Saramā-sūkta DORIS SRINIVASAN (1973: 50 n. 46) expresses the opinion that Bṛhaspati and the Angirases can often do the job of destroying the Paṇis by their magical songs without the participation of Indra. Indra's warrior talents are not of prime importance in this myth, nor is therefore Indra himself. She disagrees with my hypothesis to explain *bṛhaspati* as an epithet of Indra in this sūkta, because by introducing the god Bṛhaspati at a later point in the hymn, Indra's prowess is not diminished. Though Indra's might does on occasion destroy the Paṇis (e.g. 2, 17, 1. 6, 17, 1), it is then increased by the chanting of the mythic priests. My hypothesis does not seek to eliminate the Angirases whose important role I have stressed throughout, but only their redundant leader, Bṛhaspati. Accordingly, the appearance of the mythic priests in 1,62 does not disprove my contention that here, too, *bṛhaspati* can be an epithet of Indra. The fact that elsewhere in the Ṛgveda the fully developed god Bṛhaspati appears in the myth, does not pose any obstacle to my hypothesis either. It does so only if one presupposes that the Ṛgveda does not and cannot contain different historical strata. The criticism of SRINIVASAN misses the point also in so far as it does not take into account the additional evidence for the priestly function of Indra I have adduced. Indra's participation in the Paṇi myth must also be considered essential because Saramā is his, not Bṛhaspati's or the Angirases', dog.

The discussion of the roles of Indra and Bṛhaspati in the Vala myth would be incomplete without an interpretation of the significance of this myth. The central theme is the winning of the cows which are hidden in the mountain cave. The means to open the cave is mostly the ritual song whose efficacy depends on the magical power of truth. The Vala myth offers the most conspicuous evidence for the Vedic age of the *satyakriyā*, the act of truth. Beside this we meet two other, obviously more primitive, concepts. The one is the magic of the name: The knowledge of the secret name of a person or a thing gives power over the bearer of the name since the secret true name is an expression of the essence, the true nature of the bearer. The secret name of the cows is "dawn", and thereby the cosmic nature of the cows is established. The magic of the name is an older form of the *satyakriyā* which in the more fully developed ritual was substituted by the artistic formulation of the truth in the ritual poem. A still older and more primitive concept can be inferred from those passages where the cave is opened by roaring and lowing: This is analogical magic — by the roaring of the Bull the cows are made to answer and to force their way out of the cave.

Though for many passages the identification of the cows as dawns is obvious, there are a number of places where the cows are mentioned side by side with the dawns (e.g. 1, 62, 5. 6, 60, 5), and this fact indicates that not only the dawns but also the cows proper are released from Vala and brought to the earth. For the Vedic poet this juxtaposition was hardly contradictory since for him the dawns were identical with the *dakṣiṇā*, too. The *dakṣiṇā* cows are the terrestrial counterpart of the dawns; finally other goods, too, are included which have no cosmic equivalent in the Vala myth, such as horses and gold (e.g. 10, 108, 7. 10, 62, 7. 7, 90, 6).

The release of the dawns, beside which the sun is often mentioned, occasionally also the moon and the stars (10, 68, 10-11), is without doubt the central motif of the myth, but we also hear that as a result of the opening of Vala water, plants, trees, cows, horses, and men (6, 39, 5) are granted by Indra. This means that by his feat Indra brings about life on earth. Beside the luminaries the waters — occasionally called cows just like the dawns — are mentioned most frequently. Thus the rivers are depicted as cows side by side with the dawns (10, 138, 1-2), and Sūrya moves among the cows, the celestial rivers (5, 49, 9). — Sometimes we cannot decide whether the cows are the dawns or the celestial rivers (3, 31, 6). This close connection between dawns and rivers can be explained by the fact that the dawns are moving in the heavenly rivers. The cows are once called water cows (9, 108, 6), and of the goods of Vala it is said that they are hidden in the waters (3, 39, 6). The expanding of the earth and the propping up of heaven are also mentioned in the context of the Vala myth. And thus we can piece together a picture which proves the Vala myth to be a creation myth.

In the cave we do not only find the cosmic goods and their terrestrial equivalents, but also the song by which the cave itself is opened (3, 31, 10. 10, 67, 5). This peculiar idea can be explained if we suppose that the inspiration of the poets was simultaneous with the lighting up of the dawn who inspires the poet. The secret name of the cow, too, is hidden in the cave, and the insight, the vision and inspiration is lighting up from the seat of truth which is situated in the Vala cave.

The exact location of the Vala is only rarely mentioned in the mantras. Unambiguous is the description in the Saramā-sūkta. The cave is situated beyond the river Rasā which divides heaven from earth; the cave is accordingly located in heaven which was imagined to begin beyond the waters surrounding the earth. Elsewhere, too, heaven or the highest abode are mentioned as the place where the cows are hidden (5, 45, 1.8). The contents of the cave is a heavenly treasure (1, 130, 3). The gates of the cave which are kept locked by the Paṇis are situated in the east as can be inferred from a sūkta dedicated to Agni (7, 6, 3-4). The dawns are moving over the celesial vault just like Sūrya and set in the West. The West is the direction of the demons who, however, in the morning block the exit in the East and must be chased to their proper place, the West, where they are to sleep unawakened (1, 124, 10. 4, 51, 3). This description is probably based on a cosmographic conception according to which the world is beyond the river Rasā enclosed by mountains which have an entrance in the West and an exit in the East. Sun and dawns spend the night in this mountain cave which may be identical with the netherworld. The mountains would thus form the boundary between heaven, earth, and the netherworld. From this I do not want to draw general conclusions for the Vedic cosmography which needs a more comprehensive and detailed investigation which would possibly show that the Ṛgveda does not presuppose a homogeneous and consistent cosmography but contains a number of conflicting conceptions.

The Vala myth can be viewed as a ritual legend, too. The primordial ritual acts of Indra and the Angirases have their counterpart on the place of sacrifice where the king and his priests are reiterating the mythical event. The Ṛgveda provides sufficient data which allow us to fix with some probability the position of the Vala myth in the contemporaneous ritual though it is not possible to give a reconstruction of the Ṛgvedic ritual in every detail. The song which is to open the cave takes one year to be completed. From this fact the conclusion can be drawn that the sacrifice was a yearly one, and the fact that especially the dawns and the sun are liberated points to the New Year festival. The connection of the myth with the Soma sacrifice indicates that its theme cannot have been the daily liberation of the luminaries. More precisely the Vala myth is connected with the morning pressing of the Soma sacrifice at which the *dakṣiṇā* — identified with the dawn — was given. In the ritual of the Ṛgveda the ceremonies whose prototype was the Vala myth do not form an independent sacrifice but are part of the great Soma ritual. For the midday pressing the Vṛtra myth plays a similar role. This Soma sacrifice could — just as in the later ritual — be again part of a greater ritual complex like the Aśvamedha. The cows which are given as *dakṣiṇās* are in reality conquered by the king in battles with his enemies, and this furnishes an explanation of the fact that, in the myth, one of the enemy tribes, the Paṇis, have become the demoniac guardians of the celestial cave.

Vala and Vṛtra myths have been considered as duplicate myths and it has been supposed that the Vala myth is a priestly version of the popular Vṛtra myth. On the other hand it has been assumed that the two myths have frequently been mixed up. I do not want to go into the prehistory of the two myths here, but it should be remembered that the Greek legends which can be compared advise against postulating the common origin of Vala and Vṛtra myths. The Vṛtra myth corresponds to Hercules' fight with the Hydra, the serpent or dragon, the Vala myth to the theft of the cows of Geryon, and in the Greek sources both legends are obviously relating different deeds of Hercules which cannot be derived from a common prototype. In the Ṛgveda no evidence for an original identity of Vṛtra and Vala myths can be found. The Vṛtra myth relates Indra's fight with a serpent, and its central theme is the liberation of the waters, that of the Vala myth the liberation of the light from the darkness of the mountain cave. The fact that both myths are concerned with the creation of the world, and that in the Vṛtra myth occasionally the light is liberated, too, just as we sometimes hear of the liberation of the waters in the Vala myth, cannot disprove the essential difference of both myths.

The Vala myth has its fixed place in the ritual as the prototype of the bestowal of the *dakṣiṇā* which takes place during the morning pressing. (In the later ritual this was shifted to the noon pressing.) The by far more frequent Vṛtra myth is not so consistently connected with ritual acts since the poets were using more popular motifs. But the Vṛtra myth, too, has found a ritual interpretation in which the Maruts act as the priests of Indra, who liberates the waters for the first man, Manu, and provides him with living space by separating heaven from earth. In this form the Vṛtra myth has found its place at the noon pressing, and the question arises why Vala and Vṛtra myths were used in different ritual contexts. For the Vala myth the connection with the New Year festival seems to be certain, but the same has also been assumed for the Vṛtra myth. If we are not to suppose that the distribution on morning and noon pressing, respectively, was purely accidental and arbitrary, it must be possible to find a reason for the treatment of both myths in the ritual. I cannot give a definite solution of this problem since this would require a new investigation of the Vṛtra myth and especially of its relation to climatological facts. But I think that the annual Soma sacrifice on the New Year day was an image of the year whose three critical moments were expressed in the three pressings. The morning pressing corresponds to the New Year day proper which is following the longest night of the year and thus represents the liberation of light from darkness. In the Vṛtra myth at least the participation of the Maruts who are the personification of the monsoon storms points to the beginning of the rainy season, and accordingly, the noon pressing may represent the summer solstice which approximately coincides with the commencement of the rains.

(This paper is a summary of my book *Bṛhaspati und Indra. Untersuchungen zur vedischen Mythologie und Kulturgeschichte.* Wiesbaden: Harrassowitz, 1968. A short reference to recent criticism has been included. The following reviews and other critical comments have come to my notice: V. G. RAHURKAR, *Annals of the Bhandarkar Oriental Research Institute* 50, 1969, 109-112. P. HORSCH, *Asiatische Studien* 24, 1970, 66-68. O. VON HINUEBER, *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 121, 1971, 207-208. F. B. J. KUIPER, *Indo-Iranian Journal* 13, 1971 (1972), 279-266. L. ROCHER, *Journal of the American Oriental Society* 92, 1972, 167-168. E. MERHAUTOVA, *Archiv Orientální* 41, 1973, 187-188. J. GONDA, *Orientalistische Literaturzeitung* 68, 1973, 177-181. D. SRINIVASAN, "The Myth of the Paṇis in the Rig Veda", *Journal of the American Oriental Society* 93, 1973, 44-57. J. GONDA, *The Dual Deities in the Religion of the Veda.* Amsterdam, 1974)

ON THE PROBLEM OF THE RELATION OF SPIRITUAL PRACTICE AND PHILOSOPHICAL THEORY IN BUDDHISM

BY

LAMBERT SCHMITHAUSEN (Hamburg)

Everyone who has had at least some glimpses at Buddhism knows that it contains various philosophical theories as well as various spiritual practices. The term '*philosophical theory*' should be understood here in a general sense comprising any attempt to make rational statements about the true nature or the fundamental principles of the totality or some part of the existent, or about those aspects of it of which everyday experience is not aware. In this sense, philosophical theories in Buddhism are, e.g., the doctrine that there is no substantial Self, no *ātman* ; or the doctrine that the whole universe consists of momentary factors, of factors each of which lasts only for the time of an extremely short moment. '*Spiritual practice*', in the case of Buddhism, consists essentially of moral or ethical exercises, and of practices of meditation, deep concentration, or trance. As an example, we may adduce the so-called four 'infinitudes', or 'unlimited ones' (*apramāṇa*), i.e. the meditative practice of the attitudes of friendliness, compassion, sympathetic joy, and impartiality or equanimity with regard to all living beings. Another example is the 'contemplation of the impure' (*aśubhabhāvanā*). Here the Yogin, in order to subdue excessive covetousness, contemplates dead bodies in their different stages of decomposition. In this exercise, it is not necessary that the Yogin actually stays at a cemetery for the whole time. He may well continue the exercise at any other place, making use of a special meditative practice in which he is able to *visualize* those dead bodies he saw previously.

In this article I want to contribute to the solution of the problem of the *historical relation* of these two elements — philosophical theory and spiritual practice — in Buddhism. Did Buddhism usually start from philosophical theories and afterwards develop corresponding spiritual practices? Or is it more typical for Buddhism that first there are spiritual practices and that philosophical theories are only the result of a subsequent reflection which leads to a theoretical consolidation and generalization of those spiritual practices?

Of course, spiritual practice seems hardly possible without any theoretical presupposition. Thus, also in Buddhism there are philosophical theories which no doubt can be traced back to the Buddha himself: the doctrine that earthly life and its constituents are essentially characterized by suffering (*duḥkha*), are to be evaluated negatively on account of their impermanence (*anityatā*); the doctrine that craving (*tṛṣṇā*) is the cause of sorrowful worldly existence; and the doctrine of transmigrational rebirth (*saṃsāra*) which rules out suicide as a remedy against suffering and necessitates spiritual efforts. However, it is not these original doctrinal presuppositions of Buddhism whose relation to spiritual practice I propose to discuss. For on the one hand, it would be rather difficult to reconstruct the intellectual or spiritual process which induced the Buddha to establish these doctrines. On the other hand, many elements of these theoretical presuppositions were inherited from older periods. The doctrine of transmigration, e.g., seems to emerge as early as the period of the Brāhmaṇas.[2] The doctrine that all earthly life is suffering is found already in the older Upaniṣads as the negative corollary of the discovery of the blissful nature of the Self (*ātman*)[3]; the Buddha merely presented this negative aspect in an emphasized and isolated form. And the doctrine that craving (*tṛṣṇā*) is the cause of rebirth which implies suffering, and that accordingly the termination of suffering presupposes the abandonment of craving, is foreshadowed by the Upaniṣadic doctrine that desire (*kāma*) decides one's destiny after death, and that he who is free from all kinds of desire becomes immortal and attains the Brahman[4].

Thus, the philosophical theories whose relation to spiritual practice I am going to discuss in this article are those which are exclusively Buddhist and which were freshly developed by Buddhism.

Of course, I am not the first to deal with this problem. But there is still much work to be done from the point of view of a strictly *historico-philological method.* In order to arrive at reliable results, one has to find out the oldest sources for each philosophical theory and to check the context in which the respective theory appears there. This, however, is rather difficult because the relevant materials are in most cases anonymous and present great difficulties to the construction of even a relative chronology.

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1. GPh. p. 50.
2. Cf. Bṛhadāraṇyaka-Upaniṣad III, 4, 2: *ato 'nyad ārtam.*
3. Cf. ib. IV, 4, 5-7.

Moreover, large parts of Buddhist literature are lost; and what has remained, has been preserved in many cases only in the form of Tibetan and Chinese translations which are not always easy to understand.

Nevertheless, I think that there are cases in which it will be possible to arrive at tolerably reliable results. My aim is to demonstrate this in the case of the idealistic-spiritualistic philosophy of the *Yogācāra* school of Mahāyāna Buddhism.

Let me first give a short survey of this philosophy: 1. From the epistemological point of view, the doctrine ot the Yogācāras says that in every cognition or perception what is cognized or perceived is only an object-like mental image but not a real object existing outside the mind. 2. From the viewpoint of metaphysics, according to the Yogācāras there are no material but only mental entities. The whole universe only consists of living beings that are constituted by nothing but mental factors. Each living being is a complex of eight different kinds of cognition or perception (*vijñāna*). Moreover, each of these eight cognitions is accompanied by a group of other mental entities that mainly belong to the emotional or volitional sphere, e.g. sensations of pleasure or pain, hatred or desire, good or bad intentions. All these mental factors exist only for the time of an extremely short instant (*kṣaṇa*), but there may be homogeneous chains or series of such instantaneous factors. 3. As has been said, all mental factors apprehend not real objects but merely a mental object-like image that is imprinted on them in the very moment of their origination. As for this objective content, the ordinary cognitions and perceptions that constitute the surface of the living being generally take it over from a subliminal, subconscious cognition called the *ālayavijñāna*. The objective contents of this *ālayavijñāna* consists of a mental image of the whole world and is determined by the former good and bad deeds (*karman*) of the respective living being. Thus, the whole world, especially the outer world, is only a subjective mental production of each living being. Our conviction to live in one and the same world is therefore merely an imagination based on the fact that there are certain common features in our *karman* which cause our *ālayavijñānas* to produce *similar* mental images of the outer world.[1] 4. It must be added, however, that for the Yogācāras even this manifold universe of fluctuating mental factors is only an imperfect or preliminary level of reality. In mystical intuition one can become aware of a deeper reality constituted by the so-called 'Suchness' or 'True Essence' (*tathatā*)[1] which is one, unchangeable and imperishable, and which represents the ontological aspect of *nirvāṇa*.

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[1] Cf. Hsüan-tsang, Vijñaptimātratāsiddhi (T 1585), p. 10 c 12 ff. (transl. De la Vallee Poussin p. 135 ff.).

After this short sketch of the idealistic philosophy of the Yogācāras, we shall now proceed to a discussion of the question of its *origin*. Was the formation of Yogācāra idealism caused by *theoretical* problems? This is, e.g., the opinion of J. MASUDA who believes that it was developed in opposition to the absolute negativism of the Mādhyamikas[2]. Or did Yogācāra idealism — as E. CONZE thinks[3] — arise from certain practices of meditation, i.e. from *spiritual practice*?

As I have tried to prove in another article[4], the oldest materials of the Yogācāra school have been collected in the voluminous *Yogācārabhūmi*. In this text, as far as I can see, the idealistic-spiritualistic philosophy of later Yogācāras and its characteristic terms, *vijñaptimātra* and *cittamātra*, are not yet traceable. I found only one passage in which the text asserts that only the mind (*cittamātra*) exists really. But it is an opponent who is speaking in this passage, and moreover the statement is not, as usually, directed against the existence of real objects outside the mind but merely against the opinion that, besides the mind, we have to accept the existence of emotional and volitional mental factors[5].

In most of its parts, the Yogācārabhūmi obviously presupposes the realistic ontology of the traditional schools of Hīnayāna Buddhism which merely deny the existence of a substantial Self (*ātman*) whereas the reality of insubstantial entities (*dharma*), mental *as well as material ones*, is not questioned[1]. There are, however, some portions of the Yogācārabhūmi —especially the chapters Bodhisattvabhūmi and Bodhisattvabhūmiviniścaya — where we meet with a kind of nominalistic philosophy according to which finite entities are mere denominations (*prajñaptimātra*)[2], or with a theory that considers objects or phenomena (*nimitta*) to be the product of false conceptions or disintegrating mental activities (*vikalpa*). But just the latter doctrine seems to imply that false conception produces things *really*, and not merely as mental images[3]. Only as compared with the absolute 'Suchness' (*tathatā*), both conceptions and their products are unreal[4]. Thus, these theories may be regarded as special forms of Mahāyānistic illusionism. They may be stages preparing Yogācāra idealism, but they are not yet idealism itself.

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[1] Cf. NVinsg, pp. 105 ff.

[2] JIRYO MASUDA, Der individualistische Idealismus der Yogācāra-Schule (Heidelberg 1926), p. 25. — More recently e.g. R. H. ROBINSON, The Buddhist Religion (Belmont/California, 1970), p. 70.

[3] BThI, pp. 251 ff.

[4] Lit. Y., pp. 819 ff.

[5] Y-T Zi 80 b 2 ff., cf. Lit. Y., pp. 820 f., esp. note 46. — The occurrences of the term *vijñaptimātra* (*tā*) in the Bodhisattvabhūmiviniścaya chapter of the Yogācārabhūmi (see Y-T Hi 74 b 7 f. etc.) are not taken into account here because they belong to a complete quotation of the Saṃdhinirmocanasūtra (cf. Lit. Y., p. 822) which will be discussed below.

Another development preparatory to idealism which can be observed in the Yogācārabhūmi refers to the objects of meditative concentration (*samādhi*). Here again, we often meet with a *realistic* doctrine: the object-like images (*pratibimba*) visualized in meditation are constituted by a special kind of 'derivative matter' (*upādāyarūpa*) originating on the basis of the gross elements under the influence of a corresponding act of concentration (*manaskāra*) that can be produced in certain meditations (*samādhi*)[5]. This matter produced by meditation is characterized by the peculiarity that it can only be apprehended by the non-sensual cognition (*manovijñāna*) of meditation but not by sense perception, and that it does not offer resistance to the motion of ordinary material objects[6].

However, in the *Srāvakabhūmi* chapter the Yogācārabhūmi quotes an unknown Sūtra in which the purely *ideal* character of the object visualized by the meditating Yogin — e.g. repulsive things like decaying corpses — is at least seen as one possibility. The text says: "It is not the case that the very same real object [which the Yogin saw before and which he is now visualizing] has now actually come near to him and become perceptible so that he were able to see it really. Rather there arises for him a counterfeit of that object, or a reflected image of it, or merely a cognition or perception or recollection [of it][1]." It is, however, quite obvious that our text, by considering the possibility that *some* objects (viz. those perceived in visionary meditation) do not possess any reality apart from the subject's perception or visualizing recollection, does *not* yet propound universal idealism. The reality of *ordinary* objects is not called in question.

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[1] Cf. e.g. A. WAYMAN, Analysis of the Śrāvakabhūmi Manuscript (Berkeley and Los Angeles 1961), p. 174, first seven lines of the *Commentary* (read *paramārthan | tadadhikārāt paramārthagāthāḥ |*, and *niśceṣṭā* instead of *niṣveṣṭā*): only *pudgalanāiratmya*, but *dharmāstitva;* Y-T Zi 15 b 5 ff. (cf. also Lit. Y., pp. 817 f.): ontological coordination of mind and matter.

[2] Cf. BoBh 43, 27, etc.

[3] Cf. e.g. Y-T Zi 304 a 4-6: objects arise from *former* false conceptions *and* from [other] *objects;* cf. also BoBh 52, 24 f.

[4] Cf. e. g. Y-T Hi 18 a 5 ff.

[5] Cf. e. g. Y-T Zi 229 b 8 ff. and 214 b 2; cf. also AKBh 197, 4 ff.

[6] Cf. e. g. Y-T Zi 214 b 3-5.

This is different in the case of the *Saṃdhinirmocanasūtra* which seems to be the oldest, at least the oldest extant, Yogācarā text that clearly expresses universal idealism. The *Saṃdhinirmocanasūtra* is obviously earlier than the Yogācāra treatises ascribed to 'Maitreya-(nātha)' and Asaṅga[2]. It must have been compiled even before the completion or final redaction of the Yogācārabhūmi. But it contains many materials which clearly represent a later stage of development than most parts of the Yogācārabhūmi, esp. than the Bodhisattvabhūmi and the Śrāvakabhūmi[3]. This is especially true for the eighth chapter of the *Saṃdhinirmocanasūtra* in which the question is raised whether the images which are the objects of meditation (*samādhigocarapratibimba*) are different from the mind (*citta*) or not. The answer is that they are *not* different from the mind because they are nothing but cognition (*vijñaptimātra*)[4]. The text tries to confirm this thesis by referring to a former utterance of the Buddha that "mind (*vijñāna* = *citta*) is characterized by [being] mere cognition of the object

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[1] ŚrBh-M 8A.5-6c f.: *sa na tad eva jñeyaṃ vastu samavahitaṃ sampratyakṣībhūtaṃ* (corr. acc. to f. 8A. 4-3a) *paśyaty, api tu tatpratirūpakam asyotptdyate, tatprāibhāsam vā jñānamātram vā darśanamātram vā pratismrtimātram vā.* — Syntactically, the passage is not unambiguous. But although the Tibetan translation and the Chinese translation give different interpretations, I am rather sure that we have to understand it simply according to the pattern "...A (vā) verb B vā C vā D vā, etc.", like *tac ca tena pūrvam eva drṣṭam vā bhavati, śrumat vā matam vā vijñātam vā* in the preceding sentence of the text.—Cf. also JOSHO NOZAWA, Daijo-bukkyo Yuga-gyo no Kenkyū (Kyoto 1957), pp. 36 ff.

[2] E. g., the Saṃdhinirmocanasūtra is obviously presupposed already by SA XIX, 44 a-b and Madhyāntavibhāga III, 14 which cannot be understood without knowing Saṃdh VIII, 20, 2.

[3] Lit. Y., pp. 822 f.

[4] Saṃdh VIII, 7 (pp. 90, 33 - 91, 3); NOZAWA, op. cit. (note 6, p. 239), pp. 191 ff.; cf. also Saṃdh VIII, 9. (p. 92, 11-13).

(*— *ālambanavijñaptimātraprabhāvita*)[1]". This statement reminds us of the Abhidharma doctrine that the mind (*vijñāna*) simply cognizes or makes known the object as a whole, whereas the other mental factors (sensation etc.) apprehend or accentuate special aspects of the object[2]. But, of course, as a proof for the ideality of the objects of meditation the statement holds good only if it is understood in quite a different sense: in the sense that the mind is characterized by [the fact that its] object is nothing but cognition, that its object has no existence apart from the subjective act or event of cognition. Thus, the Saṃdhinirmocanasūtra seems to be the first text to use, in an idealistic sense, the expression *vijñaptimātra* which was to become the most used and most typical term of Yogācāra idealism.

Moreover, already in the Saṃdhinirmocanasūtra the use of the term is not limited to objects of meditation. Like the Abhidharmic theory of which it seems to be a transformation, the statement that mind (*vijñāna*) is characterized by the fact that its object is nothing but cognition contains no restriction. Accordingly, the following paragraph of the text raises the question whether the statement is valid also for *ordinary* objects. This question is answered in the affirmative: even the ordinary objects are not different from the mind, are nothing but cognition (*vijñaptimātra*)[3].

As we have seen, the Saṃdhinirmocanasūtra starts from the ideality of meditation-objects (which had already been articulated by the Sūtra quoted in the Śrāvākabhūmi) and then simply extends this fact to ordinary objects, without justifying this procedure by any rational argument. Thus, the result of our examination of the oldest materials of the Yogācāra school clearly speaks in favour of the theory that Yogācāra idealism primarily resulted from a *generalization* of a fact observed in the case of meditation-objects, i.e. in the context of *spiritual practice*.

However, there may arise two questions: Firstly, what was the *motive* for such a generalization? Secondly, how was such a generalization *possible*, how could it be professed with some chance of catching on?

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[1] Saṃdh VIII, 7 (p. 91, 4 f.): *rnam par śes pa·i* (read: *pa ni* [cf. NVinSg, p. 110, note w]) *dmigs pa rnam par rig pa tsam gyis rab tu phye ba yin no zes ṅas bśad do.*

[2] Cf. e.g. Y 59, 16; Yaśomitra, Abhidharmakośavyākhyā (ed. WOGIHARA), p. 142; L. DE LA VALLÉE POUSSIN, Vijñaptimātratāsiddhi, pp. 296 f.

[3] Saṃdh VIII, 8.

As for the *motive*, no clue can be found in the Śrāvakabhūmi passage where we found a first expression of the idea of the mere ideality of meditation-images. For according to this text, what is to be achieved by the meditation on these object-like images is the direct realization of the object *itself*[1], the most prominent object being the Four Holy Truths. However, besides this 'Hīnayānistic' practice, in other chapters of the Yogācārabhūmi, esp. in the Bodhisattvabhūmiviniścaya[2], we meet with a more 'Māhāyanistic' meditation practice which also proceeds from object-like images but sees liberating knowledge in a completely *transphenomenal* spiritual state[3]. According to this practice, the Yogin cultivates the object-like images only in order to *eliminate* them subsequently and thus to get rid also of the ordinary phenomena for which they were substituted[4]. Now, the elimination of the object-like images offered no problem, especially if — as a few passages of the Bodhisattvabhūmiviniścaya actually indicate[5] — the images visualized in meditation have only an ideal existence. In the case of ordinary objects, however, there arose difficulties. Once the transphenomenal state implying their disappearance was considered not only to be spiritually effective but also to reveal a higher level of *reality*, the elimination even of ordinary phenomena was believed somehow to take place *really*. Of course, this seems impossible if ordinary phenomena are conceived of as ultimately real things. It becomes, however, quite plausible if, like the images visualized in meditation, the ordinary objects also had only an ideal existence, and this is exactly what the Saṃdhinirmocanasūtra affirmed. Thus, the generalization of the ideality of meditation-objects into universal idealism was motivated by the urge of making more plausible the spiritual practice of eliminating all objective phenomena by supplying it with a corresponding metaphysical basis.

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[1] ŚrBh-M 8B. 5-1 (b/c): . . . *sarvadauṣṭhulyānāṃ pratipraśrabdher āśrayapariśuddhim* anuprāpnoi . . . , *jñeyavastupratyakṣatayā* (ms. wrongly *-pratyavekṣatayā*) *ca ālambanapariśuddhim;* ŚrBh 8B. 4-2(b/c): . . *pratibimbam atikramya tasminn eva jñeye vastuni nirvikalpaṃ pratyakṣaṃ jñānadarśanam utpadyate.*

[2] Although the final redaction of this chapter must be later than that of the Saṃdhinirmocanasūtra (cf. Y-T Hi 47 b 7 ff. [quotation of the whole Saṃdh] and 20 a 5 f. [= Saṃdh VI, 10]), many materials contained in it obviousty reflect a stage of development slightly earlier than that of Saṃdh VIII.

[3] Cf. Y-T Hi 15 a 8 and b 4.

[4] Cf. Y-T Zi 236 b 1 f. and Hi 15 b 2-4.

[5] Cf. notes 4, p. 243 and 1, p. 244.

In fact, immediately after having stated the ideality not only of meditation-images but also of ordinary objects, the Saṃdhinirmocanasūtra proceeds to a description of the spiritual process which, through the insight into the fact that the objective images perceived in meditation are nothing but cognition (*vijñaptimātra*), leads to the realization of the transphenomenal Absolute Reality (*tathatā*)[1]. Also in the Yogācāra works of 'Maitreya (nātha)'[2], it is especially in the context of this meditative practice that we find the doctrine of the ideality of objects.

As for the historical *possibility* of such a generalization of the ideality of the objects of meditation, we must see it against the background of *Mahāyānistic illusionism* which, of course, is much older than the Saṃdhinirmocanasūtra which can hardly be earlier than the end of the 3rd century A.D. Now, as we have seen above, special forms of Māhāyanistic illusionism are also found in certain parts of the Yogācārabhūmi. Especially the Bodhisattvabhūmiviniścaya chapter clearly expressed the ultimate unreality of all phenomena (*nimitta*) when it compares their disappearance with the awaking from a dream[3]. This ultimate unreality of objects is due to the fact that they are produced by false conception or disintegrating mental activities (*vikalpa*). But, as we have heard above, the text obviously takes this production to be a *real* one (not ultimately real, of course, but real in the sense of an entity existing outside the mind). Accordingly, the text clearly distinguishes between the ontological status of ordinary objects and that of the object-like images perceived in meditation; The first are told to proceed from *former* false conceptions *and* from [other] *objects*, whereas the latter are merely imagined (*parikalpita*) and manifested only by a corresponding concentration of interest (*adhimokṣa*) but not really existent[4]. Compared with this semi-realistic illusionism of the Bodhisattvabhūmiviniścaya, at least in the context of the metaphysical foundation of the spiritual practice described above, the frank idealism of the Saṃdhinirmocanasūtra constitutes a decisive advance.

For the articulation of this idealism, also the 'nominalism' of the Bodhisattvabhūmi (which is also found in the Bodhisattvabhūmiviniścaya) does not seem to have been without influence. It is surely not a mere accident that the characteristic term of this 'nominalism' — which describes all finite entities as nothing but denomination (*prajñaptimātra*) — is strikingly similar to the term *vijñaptimātra* used by the Saṃdhinirmocanasūtra to define all objects as nothing but cognition, i.e. as merely ideal. Moreover, a link between these two stages of development seems to be preserved in a passage of the Bodhisattvabhūmiviniścaya chapter of the Yogācārabhūmi. In this passage, the thesis that things arise in dependence on speech is illustrated by a reference to the object-like images (**jñeyavastusabhāgapratibimba*) whose form is determined by the speech-coloured concentration of thought (**jalpamanaskāra*) of the meditating Yogin[1]. On the analogy of this parallelism of meditation-objects and ordinary objects as regards their dependence on speech, it was only a small step to assert the *ideality* also of ordinary objects if the object-like images of meditation are considered to have only an ideal existence[2]. Since this latter fact is expressly stated already in the Bodhisattvabhūmiviniścaya passage referred to above which characterizes the object-like images of meditation as "belonging to the mental series" (**cittasantānaparyāpanna*)[3], the transition to universal idealism in the Saṃdhinirmocanasūtra was quite natural.

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[1] Saṃdh VIII, 9 (esp. p. 92, 11-13).

[2] Mahāyānasūtrālaṅkāra, Dharmadharmatāvibhāga, and Madhyāntavibhāga.

[3] Y-T Hi 15 b 8 ff. (cf. NVinSg. p. 109).

[4] Y-T Hi 4 b 2 f.

Perhaps still more important is the fact that even a clearly idealistic formulation ot Māhāyanistic illusionism was already existent at the time of the composition of the Saṃdhinirmocanasūtra. Although the Māhāyanistic Sūtras in which this formulation occurs can hardly be attributed to the Yogācāra school in the strict sense, at least one of them, the *Daśabhūmikasūtra*, exercised considerable influence on it This Sūtra is referred to already in the Bodhisattvabhūmi chapter of the Yogācārabhūmi[4], and was translated into Chinese by Dharmarakṣa as early as the last decade of the 3rd century A.D.[5]. Thus it is doubtlessly older than the Saṃdhinirmocanasūtra which in fact, also in the 8th chapter[6], adopts its theory of the ten stages of a Bodhisattva.

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[1] Y-T Hi 23 b 8 ff.

[2] Cf. Mahāyānasaṃgraha (ed. LAMOTTE) II, 14 (4 a) and 14 b (d) where the present Yogācārabhūmi passage is actually remodelled into a proof for *idealism*.

[3] However, the pertinent words of the Tibetan (*sems kyi rgyud du gtogs pa'i*) have no equivalent in the Chinese translation.

[4] BoBh 332, 20 ff.

[5] Cf. e. g. R. YUKI, Yuishiki-gaku Tenseki-shi (Tokyo 1962), p. 7.

[6] Saṃdh VIII, 35.

Now, in the 6th chapter of the Daśabhūmikasūtra we find the following sentence: "This here, viz. the whole world consisting of the three spheres [of (sexual) desire, (corporeal) matter (without sexual desire), and immateriality], is nothing but mind (*cittamātram idaṃ yad idaṃ traidhātukam*)[1]". What is most interesting for our present subject is the fact that this statement is *not* immediately connected with the description of or reflection on a special practice of meditation (*samādhi*), but occurs in a description of several aspects of 'dependent origination' (*pratītyasamutpāda*) on which the Bodhisattva should reflect at this stage, i.e. in an essentially *theoretical* context. However, in this description of dependent origination in the Daśabhūmikasūtra the assertion of universal idealism appears to be quite *isolated* and *unmotivated*. The following as well as the preceding sentences presuppose the traditional realistic ontology[2]. In the present paper, I cannot enter into a detailed discussion of the passage. As far as I can see, either the paragraph containing the statement that this whole world is only mind is hardly more then a rather arbitrary compilation of a few well-known but heterogeneous materials under the heading of mind (*citta*) as the central and decisive factor in dependent origination; or — if there be any coherence in the text — the statement that this whole world is only mind (*cittamātra*) must be interpreted as directed *not* against the existence of real *objects* but against the existence of a substantial *Self* (*ātman*). A use of the term "nothing but mind" (*cittamātra*) in this sense is traceable also in other texts[3], and even occurs in Vasubandhu's commentary on the Daśabhūmikasūtra in connection with the following sentence of the Sūtra[1]. Nevertheless, even in this case the statement that the whole world is nothing but mind appears to be a somewhat unusual expression if the text merely wants to deny the existence of a substantial Self. Thus, in any case it seems that it was not in the Daśabhūmikasūtra that the sentence which describes the world as being nothing but mind was formulated for the first time.

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[1] DBhS 32, 9 (ed. RAHDER, p. 49; ed. KONDO, p. 98); cf. also DBhS, *gāthā* portion, VI, 16 a: *te cittamātra ti traidhātukam otaranti*. — The passage has been discussed esp. by Japanese scholars, cf. e. g. YUKI'O SAKAMOTO, Kegon-kyogaku no Kenkyū (2nd ed. Tokyo 1964), pp. 353 ff.; MITSUYOSHI SAIGUSA, Pratītyasamutpāda and Cittamātra (in: Kegon-shiso, ed. by K. KAWADA and H. NAKAMURA, 2nd ed. Tokyo 1968), pp. 235 ff.; KOSHIRO TAMAKI, Pursuit of Cittamātra (also in: Kegon-shiso ...), pp. 336 ff. [all in Japanese]. I intend to substantiate my different interpretation of the passage on another occasion.

[2] Cf. e. g. DBhS 32, 11 f.: *yasmin vastuni rāgasaṃyuktam cittam utpadyate, tad vijñānam. vastu* <*saṃskārāḥ* (see KONDO-ed.).> *saṃskāre saṃmoho* (see KONDO-ed.) *vidyā*. Of course, any unbiassed reader will understand the *vastu* as a *real* thing.

[3] Cf. e. g. Abhidharmasamuccaya (ed. PRADHAN, Santiniketan 1950), p. 34, 20-23 (read *saṃprayogaviprayogaṃ jānāti* and *cety abhiniveśaṃ*); Sthiramati, Sūtrālaṅkāravṛttibhāṣya, Tj., Sems-tsam, vol. Tsi, f. 123 a 8 f.; cf. also Laṅkāvatārasūtra, ed. NANJIO, p. 80, 7: *svacittamātram idaṃ traidhātukām ātmātmīyarahitam*.

In fact, the sentence occurs also in at least one other old Mahāyānasūtra, namely the Pratyutpannabuddhasaṃmukhāvasthitasamādhisūtra[2], also called *Bhadrapālasūtra, which was translated into Chinese by Lokakṣema as early as 179 A.D.[3], i.e. more than one hundred years before the Daśabhūmikasūtra.

As the longer title of this Sūtra shows, its main subject is a special kind of visionary meditation in which the Yogin sees himself face to face with any Buddha of the present time, especially with Amitābha or Amitāyus, the Buddha who resides in the western paradise Sukhāvatī. In the third chapter[4] of this Sūtra, these apparitions of the Buddha visualized in meditation are compared with dream visions, with reflected images, and with the decaying corpses and skeletons visualized in the 'contemplation of the impure' (*aśubhabhāvanā*). Just as these imaginary appearances, the Buddhas visualized in meditative concentration, are also not really met by the meditating Bodhisattva but only projections of the Bodhisattva's mind; and what the Bodhisattva should realize is precisely this fact that the visualized Buddha is nothing but mind (*cittam eva*)[5].

This ideality of the meditation-images, however, has to be extended to *all* phenomena: Just as a man, awaking from a dream, comprehends that all phenomena are illusory like dream visions[6], in the same way the reflection of the Bodhisattva who understands that in his meditation he did not really meet the Buddha culminates in the intuition of universal ideality: "This whole world consisting of the three spheres is nothing but mind

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[1] Tj., Mdo-tshogs, Ni 254 a 5 f.: *srid pa'i yan lag rnams bdag daṅ bral ba'i sems tsam* (= **ātmarahita-cittamātra*) *la brten nas* (v. 1. [Tj., Mdo-tshogs, Ji 86 a 3]; *brten pas na*) *sems gcig la brten pa'i phyir te.*

[2] Cf. Sakamoto, op. cit. [note 1, p. 245], pp. 346 ff.

[3] Cf. Bagchi, Le canon bouddhique en Chine, vol. I, p. 40.

[4] BhPS 11 a 7 - 15 b 7.

[5] BhPS 15 b 4 f.

[6] BhPS 14 a 1; my interpretation of the passage follows the Chinese versions.

(*cittamātram idaṃ* [*yad idaṃ?*] *traidhātukam*). And why? Because [I see in the case of meditation that] it appears just as I imagine.[1]"

Thus, in contrast to the Daśabhūmikasūtra, in the Bhadrapālasūtra the statement that the whole world is only mind (*cittamātra*) occurs in a context which perfectly corresponds to the idealistic sense suggested by its wording. Moreover, the statement is well introduced here and appears as the culminating point of a series of detailed preparatory reflections. As far as I can see, such a coherent exposition of the idealistic thesis that the world is nothing but mind (*cittamātra*) does not occur in any other of the early Mahāyānasūtras. This fact, in combination with the earliest *terminus ante quem* of our Sūtra, suggests that the Bhadrapālasūtra was the first text to enunciate the thesis of universal idealism and to express this by the term *cittamātra*. If this is true, our investigation of the pertinent old Mahāyānasūtras has led to the same result as our examination into the proper Yogācāra texts: to the result that the thesis of universal idealism originated from the *generalization* of a situation observed in the case of objects visualized in meditative concentration, i.e., in the context of *spiritual practice*.

However, the motivation of this generalization seems to differ slightly from that of the old Yogācāra sources. In the Bhadrapālasūtra, it is obviously Mahāyānistic illusionism that constitutes the direct and proper motive. It seems that it is only for the sake of introducing into universal illusionism that the Sūtra emphasizes the unreality of the apparitions of the Buddha visualized in meditative concentration for, on account of their high dignity, they must have been a most impressive object of demonstration. But the fact that our Sūtra articulates the final enunciation of universal illusionism in terms of *idealism* is obviously due to its proceeding from a meditation practice; for it is the mind (*citta* or *cetas*) that is considered to be the centre and source of meditative processes[2].

But in spite of this terminological peculiarity, we must not lose sight of the fact that the Bhadrapālasūtra merely intends to introduce into the unreality of phenomena and not to establish the mind as a higher reality. This is clear from the concluding verses where the Sūtra, after having enunciated its thesis that the Buddha visualized in meditation is nothing but mind and perceived only by the mind (i.e. that in this case mind perceives nothing but itself), adds the following words: "[But] the mind cannot cognize the mind, the mind cannot perceive the mind[1]." For, as another Sūtra says, just as with the blade of a sword one cannot cut that very same blade, in the same way by one's mind one cannot perceive this very same mind (i.e. one instant of mind cannot perceive itself)[2]. Thus, even the notion of mind (as something real) is only ignorance and has to be abandoned[3]. The reduction of objects to the mind is thus merely a preliminary step towards the intuition of complete Emptiness[4].

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[1] BhPS 15 b 1 f.: *khams gsum po'di dag ni sems tsam mo || de ci'i phyir ze na | 'di ltar bdag ji lta ji ltar rnam par rtog pa de lta de ltor snaṅ ṅo ||.*

[2] Cf. NVinSg. p. 86, esp. note d.

This aspect is emphasized in some other old Mahāyānasūtras[5]. It is also clearly set forth in the Yogācāra works of 'Maitreya (nātha)'[6] who emphasizes that the transition from the apprehension that there is only mind or cognition to the intuition of the transphenomenal Absolute includes, as an intermediate stage, the apprehension that even the notion of mere mind or cognition has to be abandoned[7] (and it does not seem to be merely an accident that in his presumably oldest work — the Mahāyānasūtrālaṅkāra — 'Maitreyanātha' uses the term *cittamātra*[8], and not *vijñaptimātra*). In fact, both the old Mahāyānasūtras and the Mahāyānistic Yogācāra texts aim at a completely transphenomenal mystical experience compared with which even the notion of mind can only be a preliminary stage that has to be transcended in the end. It was probably the influence of their Hīnayānistic heritage that induced the Yogācāras to transform the exceptional position that mind possessed in the context of *spiritual* practices into a positive *ontological* pre-eminence over the objects, and to rebuild, on this level of idealism, a detailed system fully equivalent to that of Hīnayānistic Abhidharma.

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[1] BhPS 15 b 6; cf. already Aṣṭ. 76, 4.

[2] Ratnacūḍasūtra, quoted Śikṣāsamuccaya (ed. BENDALL) p. 235, and Bodhicaryāvatārapañjikā (ed. VAIDYA) p. 188, 24-26.

[3] Cf. BhPS 15 b 6.

[4] Cf. BhPS 13 b 3 f. (*śūnyatasāmādhi* as the true meditation on the Buddha), and perhaps 15 b 7 (*rlom sems de 'dir stoṅ pa yin*).

[5] E. g. T 815, p. 788 b 27 ff. and 789 a 27 ff. (cf. SAKAMOTO, op. cit. [note 1, p. 245], pp. 347 f.); T 1509, p. 118 a 1 f. (cf. SAIGUSA, op. cit. [note 1, p. 245], p. 247.

[6] See note 2, p. 243.

[7] Cf. e.g. SA VI, 8; XIV, 26-27.

[8] Cf. e. g. SA VI, 7; XIV, 24.

Summarizing the results of our preceding investigation, we may retain the following: Specifically idealist formulations defining all phenomena as being nothing but mind (*cittamātra*) or cognition (*vijñaptimātra*) obviously made their first appearance in connection with reflections on objects of visionary meditation. Their generalization, however, was essentially motivated or made possible by the historical background of Mahāyānistic illusionism describing all finite entities or notions as empty (*śūnya*)[1], unreal (*asaṃvidyamāna* etc.)[2], and illusory, comparable to magic (*māyopama*) or to a dream (*svapnopama*), etc.[3]. There are even some formulations of illusionism that may be called to be half-way towards idealism because they describe the illusory nature of phenomena by derivating them from *mental* activities which, however, in contrast to the mind (*citta*), expressly imply *falseness* (and it is only this falseness that is emphasized). E.g., a passage of the Aṣṭasāhasrikā Prajñāpāramitā says that all entities are not really existent but only imagined (*kalpita*)[4]. And even in the 3rd chapter of the Bhadrapālasūtra we read in the concluding verses: "All these phenomena are without substance (*asāra*), arisen from vain thinking (*manyanā*)[5]." Thus, the investigation of the origin of Yogācāra idealism would entail an examination into the origins of Mahāyānistic illusionism. Such an examination would, however, exceed the limits of the present article.

Abbreviations

AKBh = Abhidharmakośabhāṣya of Vasubandhu, ed. P. PRADHAN, Patna 1967.
Aṣṭ = Aṣṭasāhasrikā Prajñāpāramitā, ed. P. L. VAIDYA, Darbhanga 1960.
BhPS = *Bhadrapālasūtra = Pratyutpannabuddhasaṃmukhāvasthitasamādhisūtra, Peking-Kanjur, Mdo, vol. Du, fol. 1-73 a 5.
BoBh = Bodhisattvabhūmi, ed. U. WOGIHARA, Tokyo 1930-1936.

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[1] Cf. e. g. Aṣṭ 156, 29; 198, 18; 224, 26; BThI, p. 220.

[2] Cf. e. g. Aṣṭ 8, 9; 230, 32 f.; cf. also 165, 15 f.

[3] Cf. e.g. Aṣṭ 20, 14 f.; BThI, p. 222.

[4] Aṣṭ 8, 9.

[5] BhPS 15 b 6.

BThI = E. CONZE, Buddhist Thought in India, London 1962.
DBhS = Daśabhūmikasūtra, ed. P. L. VAIDYA, Darbhanga 1967.
GPh = E. FRAUWALLNER, Geschichte der indischen Philosphie, I, Salzburg 1953.
Lit. Y. = L. SCHMITHAUSEN, Zur Literaturgeschichte der älteren Yogācāra-Schule. Zeitschrift der Deutschen Morgenländischen Gesellschaft, Supplementa I, Wiesbaden 1969, pp. 811-823.
NVinSg = L. SCHMITHAUSEN, Der Nirvāṇa-Abschnitt in der Viniścayasaṃgrahaṇī der Yogācārabhūmi. Wien 1969.
SA = Mahāyānasūtrālaṅkāra, ed. S. LEVI, Paris 1907.
Saṃdh = Saṃdhinirmocanasūtra, ed. E. LAMOTTE, Louvain-Paris 1935.
ŚrBh-M = Śrāvakabhūmi manuscript, available to me thanks to the kindness of Prof. ASKARI, former director of the K. P. Jayaswal Research Institute in Patna, and of Prof. H. BECHERT and Dr. G. ROTH, Indological Seminar of the Universiy of Göttingen.
T = Taisho-ed. of the Chinese Tripiṭaka.
Tj = Tanjur, Peking-ed.
Y = Yogācārabhūmi, ed. V. BHATTACHARYA, Calcutta 1957.
Y-T = Tibetan translation of the Yogācārabhūmi, Tj., Sems-tsam, vols. Dzi - Yi.

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DEMETRIOS GALANOS, A GREEK SCHOLAR IN INDIA

BY

SIEGFRIED A. SCHULZ (Washington)

In the course of the past centuries when the glory of ancient Greece and of medieval Byzantium had vanished, Greeks on the Indian subcontinent became known as successful traders. In the nineteenth century sizable Greek communities existed in Narayanganj, Dacca and Calcutta. The only Greeks there who were not engaged in commerce and shipping were the handful of Orthodox clergymen who took care of the spiritual needs of their countrymen, particularly in Bengal. When the clergymen were unable to attend to the educational needs of the community in Dacca, a business correspondent in Constantinople looked for a suitable Greek tutor and found Demetrios Galanos (1760-1833) who was visiting there. His uncle was the metropolitan of Caesarea (Turkey) and, at that time, Protothronos of the Holy Synod at Constantinople. Bishop Gregorios had learned of his nephew's outstanding ability and wanted him to become a priest. Galanos' whole education had, in fact, prepared him for that vocation.

At first, Galanos attended the only public school of his native city, Athens, a school entirely supported by Greek merchants in Venice. Probably because of the unstable conditions in Athens where Greek insurgents had infuriated the Turkish occupation forces through incessant attacks, Galanos was, around 1774, sent to Mesolongion near Patras, in those days a prosperous commercial center with many ties to the Greek community of Venice, Italy. The school had just been reopened after another uprising of the Greeks against the Turks had been quelled. Lord Byron held court in Mesolongion and died there in 1824; and two years later that city became the topic of the day, even in the pulpits in the western world when the Turkish armies had finally crushed the besieged Greeks and the city was reduced to rubble.

Little is known about Galanos' formative years at this city of Northern Greece. Around 1778, Galanos embarked for the Dodecanese island of Patmos where the Orthodox Church had, in 1713, established the "Patmian School", a seminary devoted to preparation for the priesthood, and still in existence today. The school was housed in the Monastery of the Revelation above the grotto of the Apocalypse, and the students had access to the well-stocked library of the monastery of St. John Theologos. They had seven years of training in religion, ancient Greek, philosophy, Latin, oratory and ecclesiastical music. In the eyes of the Greeks suffering under Turkish rule, Patmos which enjoyed special privileges under the Turks held the position of Ancient Athens. Illustrious scholars taught the future elite of the Orthodox Church not only of Greece, but also of Asia Minor, Ethiopia, the Balcan countries and Russia. To the work in which Galanos later excelled the presence of Daniel Kerameus, a noted philologist, was important and when Galanos, then in India, learned of Kerameus' death in 1801, he wrote to a Greek priest in Dacca: "O Daniel ...Extinguished is the luster of the Hellenic eye!" [*Indiké Allelographía* (in Greek), Constantinople, 1852,; p. 7f.] From detailed studies on the Patmian library by I. Sakkelionos (Athens, 1890), Charles Diehl, *Byzant. Zeitschrift* I (1892), 488-525, and by others, we know about the literary as well as historical treasures kept on the island. Judging from the scholarly zeal and discrimination which Galanos showed in his later years, we can be sure that he made good use of the opportunities for learning during his six or seven years at the Patmian School.

It is impossible to establish the exact date of Galanos' departure from Patmos and his arrival at Constantinople. There may be records to that effect at the Holy Synod at Istanbul, but they are jealously guarded and inquiries apparently are not looked upon with favor. However, Galanos' uncle, the metropolitan of Caesarea, is known to have founded a new theological school and may have wanted his nephew to enrol there or to start a teaching career. It cannot have been easy for Galanos to refuse such a career. For the only way for an educated Greek to advance, socially and financially, under Turkish rule was to become a clergyman or a civil servant. As George Finlay (*History of the Greek Revolution*, Edinburgh, London 1861) has observed, "provincial Turks rose with greater difficulty to high rank in the Othoman service than Greeks ... The Turkish *aga* was ill suited for an Othoman instrument. He was deficient both in knowledge and servility. The Greeks possessed both in a high degree. A wicked government requires unprincipled agents. Greeks held several important offices in the Sultan's government because they were without principle." (p. 128) Elsewhere Finlay says "The Greeks were allowed a considerable share of authority in the executive administration ... The patriarch of

Constantinople . . . was a kind of undersecretary to the grand vizier for the affairs of the orthodox Christians." (p. 21) But while the priests enjoyed great privileges, as a matter of Turkish policy, they were at the same time held accountable for all the "misdeeds" of their flock. In 1821, the Sultan had the Patriarch of Constantinople executed and his body thrown into the water, in retaliation for a widespread Greek rebellion.

Galanos was certainly not among those — comparatively few ! — opportunistic Greeks. He chose the hard and, for that time, very courageous route to India. Mandrantzoglu, an agent of the Bengali Greeks in Constantinople and a friend of the metropolitan, had persuaded him "to carry the torch of the paternal education to the Greeks in India, and to send back from there to Hellas a few sparks of the 'light of Asia' " as J. Gennadios puts it in his article on Galanos. (*Hellenismós*, Feb. — April 1930; p. 6) And in another Galanos biography we read that in this way, the young scholar could not only enhance his knowledge, but could attain financial independence as well. Perhaps the offer made to Galanos was generous and tempting, since his family lived in rather modest circumstances. Some of his relatives were priests, but Demetrios' younger brother became a storekeeper and worked his father's land; his sister's son became a sailor and once visited his uncle in India.

That Galanos fared exceedingly well, in regard to scholarship and productiveness, can be seen in seven volumes of his Greek translations from the Sanskrit, published posthumously in Athens (1845-53) and in the numerous manuscripts, as yet unpublished, which are kept in the National Library of Greece. I have dealt with his work in some detail [in: *JOAS* 89, 2 (1969), 339-356] and mention here only the contents of his books — which are not easily available any longer — and some aspects of Galanos' unpublished work and of his life.

Galanos' works which appeared in print are:

Vol. I. (1845) *Prodromos*, "The Forerunner", containing apart from a sketchy biography, Galanos' translations of verses from Bhartrihari, from the *Laghu-cāṇakya* and from Jagannāthas' *Bhaminīvilāsa*

Vol. II. (1847) Jaina Amaracandara's *Bālabharata*

Vol. III. (1848) The *Bhagavadgītā*

Vol. IV. (1850) The *Raghuvaṃśa*

Vol. V. (1851) *Itihāsa Samuccaya*, of which the original Sanskrit text has apparently not yet been published. According to Lassen who wrote to the Athenian publisher, there existed, in 1841, only one manuscript of the work in London.

Vol. VI. (1851) Extracts from the *Pañcatantra*, *Hitopadeśa* and *Śukasaptati*

Vol. VII. (1853) the *Devīmāhātmyam*

In spite of Lassen's urgent appeals, the publisher Typaldos was unable to proceed with the publication of Mss. Nos. 1844—1846, containing Galanos' translation of the *Bhāgavata Purāṇam.* Some chapters had either not been translated or were lost in transit. Typaldos whose funds were running out finally gave up, when Burnouf died and left his French translation of the Sanskrit work unfinished. There was, at that time, no other Western translation available which Typaldos could consult to fill in the lacunae.

The other unpublished manuscripts, exactly one half of the twenty manuscript volumes bearing the numbers 1836—1855 of the official catalogue, represent, to a great extent, lexicographical compilations; unfortunately, the loose leaves are bound in the most confusing manner. Occasionally Galanos mentions some of the books he used for his compilations: the *Lexicon Arabico-Persico-Turcicum* by Franciscus a Mesgnien (i.e. Meniński), the Viennese edition of 1780; for Persian works he consulted the *Borhani Quatiu*, originally written by Burhān Tabrīzī and revised by Thomas Roebuck, also the *Farhangjahāngīree*, a Persian dictionary compiled under Emperor Jahangir; John B. Gilchrist's *A Dictionary, English and Hindoostanee* (Calcutta, 1787-90) and *Hindoostanee Philology* (Edinburgh 1810); Johnson's Dictionary (probably the 1794 edition) the *Universal Etymological English Dictionary* (edition unknown). As Sanskrit authorities he cites the *Kalpadruma*, Hemachandra, Amara, and Halayudha, the *Sabdasandarbhasindhu* which Kāśīnātha Paṇḍitendra had compiled at the urging of Sir William Jones. Part of that dictionary is reproduced (Ms. No. 1836) in Sanskrit. Apart from some personal remarks (such as: "The Greek Language has been corrupted and metamorphosed more by the Romans than by any other Nation, that invaded Greece, as the Indian Language by the barbarous Mohammedans." "The women of Thessaly were very famous in magick amongst the Greeks, as amongst the Bengalees the men of Pegoo.") there are remarkable etymologies which Galanos could not have copied from any book: Skr. *bhroṇah* 'fetus' and Greek '*embryon*'; Doric *hamme* (dual), *hammes* and Skr.

avam, asmad; Skr. *śvaśura*, Pers. *khusur*, Greek *hekyros*, Lat. *socer;* Skr. *svàpna*, Greek *hypnos*, Lat. *somnus*. Occasionally Galanos cites Homer, Aristophanes and other Greek poets. The objective toward which the assiduous collecting, translating and commenting of glossaries were directed was the creation of reliable philological tools which, unfortunately, have remained fragmentary.

1. A Persian-Indian (i.e. Sanskrit; occasionally also Bengali, Hindi and other vernaculars)-English-Greek dictionary. The accompanying text is in English with copious etymological notes and speculations culled from other works. Arabic and Devanagari scripts are also transcribed into Latin letters.
2. A Sanskrit-English-Greek dictionary.
3. A lexicon of synonyms, entirely in Sanskrit and written by an Indian scribe; some corrections were made, but mistakes like *kapla* instead of *kalpa*, *uptadakah* instead of *utpadakah*, mixed up sibilants (ṣ, ś, s) were overlooked.
4. A key to the above lexicon of synonyms in Galanos' own hand; under Greek captions he lists Sanskrit words for heaven, gods, Brahmans, etc. There is also an enumeration of "Adverbs having the same meaning" but according to their last consonant: e.g. ending in *gh: parighaḥ-arghaḥ-laghu.*

Not only was Galanos remarkable in regard to scholarly productivity, but he also amassed a fortune. If we were to rely on Greek sources only, we would forever wonder how a teacher could retire comfortably after only six years of active teaching. But there are two British sources who reveal what the Greeks piously omit: Galanos was a successful businessman who had the good sense of "withdrawing" to Varanasi. In the *Narrative a Journey through the Upper Provinces of India* (London, 1828) the Lord Bishop of Calcutta, Reginald Heber, writes about Galanos—without naming him: "He was a partner in a Greek house in Calcutta, but is now (i.e. 1824) said to have retired from business." (I, 437) T. Turton, the lawyer representing Galanos' best friend and one of the executors of his last will, "Constantine Pandazy of Bonfields Lane in the Town of Calcutta Merchant", "Sheweth that the said Demetrius Galanos who was in his life time and at the time of his death a Greek Merchant residing at Benares ... hath left property and effects Within the Calcutta Jurisdiction of this Honorable Court to be Administered unto..."

There are not many official documents attesting to Galanos' stay in India. These include the burial certificate signed by A. Hammond of "The Chaplaincy Station or District of Benares in the Archdeaconry and Diocese of Calcutta." But the present writer was unable to locate the grave in the Old Anglican Cemetery. According to Gennadius, the grave should be "to the left when one enters from the road through the gate; it is the ninth when one counts the graves from the entrance, under the second Nim tree by the road wall." The only tombstone to be found with Galanos' name on it, is the memorial he set for his friend: "Peter Federoff, a Native of Russia Who died in the Prime of his Life on the 4th of Jany. 1825" adding in Greek: "The Foreigner (*xenos*) D. Galanos the Athenian to the Foreigner Peter the Russian." Federoff is buried on the southern side of the divided Chauka Ghat cemetery in the cantonment of Varanasi.

The U.P. Archives of Allahabad should contain some records bearing Galanos' name, but their present arrangement does not make a search easy. His name does not appear in any of the Resident's official registers this writer was able to see. Also district and municipal authorities avow not to have any records on Galanos' forty-year stay in Varanasi. The Commonwealth Relations Office, Westminster, however, has in its custody copies of Galanos' burial certificate (already mentioned), of his last will, and of the probate granted by the Acting Chief Justice, Sir John Franks, of the Court of Judicature at Fort William in Bengal on May 28, 1833.

Galanos' last will was signed and sealed five days before his death, May 3, 1833 in the presence of three British witnesses (John Baillie, J. Davidson, R. Steward). The extent of their relations with the Greek is not known.

The testament bequeathed one half of the approximate sum of 75,000 gold francs, most of it in the form of Promissory Notes and shares, to his nephew Pantoleon Galanos, the other half to the future University of Athens. 300 Rupies were left to his "Pundit Sue (?) Ram," 30 Rupies each to two servants, 20 Rs. to the third. "Moonshey Seetul Sing (i.e. Munshi Sital Singh) was to buy for 400 Rupies "a piece of ground in the Church yard for my burial, the other four hundred I desire to be made over to Mr. James Best for the purpose of erecting a Monument over my grave." Mr. Best and Mr. Lucius William Rickabey of Varanasi were also named as executors.

Apart from these official documents, there is a lengthy entry in the form of a eulogy, in the 1st Codex (covering the years 1792-1914) of the Greek Orthodox Church in Calcutta where his nephew had a memorial tablet affixed to the church wall.

The few letters written by Galanos and published by Tantalides (*Indiké Allelographía*) and Typaldos (*Prodromos*) allow little insight into his personality. In the first collection which is meant to honour Gregorios of Syphnos, pastor of the Dacca community from 1812 — 1818, there is a great effusion of reciprocal compliments and also evidence that Galanos had contributed generously to the Greek church in Dacca. In the second collection of Galanos letters (*Prodromos*, pp. XV-XVIII) the Greek, in a letter dated December 1829, urges his nephew to come to India.

> "If you are a reasonable, and broadminded man, then come to me. If you are unreasonable, narrowminded, and fainthearted, with the mind of a slave, stay there. Be a barbarian, a lowly oil vendor or wine dealer, or peddle rice and beans. . .take along what you have of books, lexica, and grammars. Because if you don't come, someone else will, and he will become the heir of my knowledge and my wealth. . .although you see all these good things at hand, you do not want to undergo a little hardship; you are unconcerned and lazy, as if in a slumber from a magic potion. Sober up, man; know yourself; be a Prometheus, not an Epimetheus!" [i.e. one who foresees, and not one who reflects after the event.]

Galanos then promises to return to Greece with Pantoleon two or three years after the latter's arrival. ". . .then you would be envied, celebrated, and praised [in Greece] and they would point at you in admiration."

Pantoleon set out for India and reached Calcutta towards the end of 1832. Apparently he wanted his uncle to return with him immediately, but Galanos asked him to stay in Calcutta and study Greek (!) and English under the priest Ananias. The uncertain conditions in Greece made it inadvisable to return there now. He states that in his last letter, written Dec. 14, 1832, and asks many questions in regard to his family and the new Greece.

Uncle and nephew never met. Galanos became seriously ill; perhaps he was a victim of the cholera which, as Rev. W. Buyers [in: *Recollections of Northern India*, (London, 1848) p. 295] writes, "was then raging in the city [of Varanasi] and carrying off thousands." We have numerous books written by Christian missionaries in which they describe their experiences in Varanasi in Galanos' life time. But his name does not appear in any of the books this writer was able to find. It was left to Bishop Heber who visited Varanasi around 1824 to report on a certain Greek whose name he did not reveal. Apparently Heber did not meet Galanos personally, for it is hard to believe that he would have then described the Greek in the supercilious and censorious manner he chose:

> [Among the Europeans in Varanasi] "is a Greek, a well-informed and well-mannered man, who has fixed himself here for many years, living on his means, whatever they are, and professing to study Sanskrit. I heard a good deal of him afterwards in Allahabad, and was much struck by the singularity and mystery of his character and situation. He is a very good scholar in the ancient language of his country, and speaks good English, French, and Italian. His manners are those of a gentleman, and he lives like a person at his ease. He has little intercourse with the English, but is on very friendly terms with the principal Hindoo families. He was once an object of suspicion to Government, but after watching him for a long time they saw nothing in his conduct to confirm their suspicions, and during Lord Hasting's first Pindaree war, he voluntarily gave on different occasions, information of much importance. So few Europeans, however, who can help it, reside in India that it seems strange that any man should prefer it as a residence, without some stronger motive than a fondness for Sanskrit literature, and more particularly since he does not appear to meditate any work on the subject" (I, 436).

Bishop Heber did not add anything to this report later; "friendly terms with the principal Hindoo families" and "object of suspicion" probably refer to Galanos' friendship with Sital Singh, Munshi to the then embattled Raja of Banaras. Unfortunately, it was impossible to gather more information about this aspect at Fort Ramnagar. Galanos, it would appear, was rather reticent about the extensive work he had been engaged in for years. The manuscript of his *Bhagavadgītā* translation mentions as date of completion November 12, 1802, and many other translations had been completed at the time of the Bishop's visit.

There was, also around 1824, another visitor who was considerably less sophisticated than the Anglican bishop. The Gennadios Library at Athens keeps quite a few items written by that man who changed loyalties easily.

He was Captain Nikolaos Kephalas, a "man of many devices, who wandered full many ways "like Ulysses. Born around 1765 on the island of Zakynthos and therefore a British subject, he left the island clandestinely "Because of the passions generated by the parties ruling the Ionian Islands at that time," as he puts it in one of the numerous supplications, this one directed to Queen Victoria "Protectrice exclusive des îles Ioniennes." He joined Napoleon's army then traversing Europe and took part in the battle of Dresden (1812); but having gone to Constantinople in 1813, he found himself exiled by the British, for the duration of 20 years. Kephalas then set out on his voyages which took him to India twice and he also wrote — perhaps plagiarized would be a more appropriate word — books on India, marine law and navigation.

Galanos had so much confidence in this adventurous fellow Greek that he entrusted to him the Cāṇakya translation and the Sanskrit text with an accompanying letter, of which a copy is to be found in Ms. No. 1855. In translation, it reads as follows: "D. Galanos, the Athenian, requested by the honourable Captain Nikolaos Kephalas sends through his hands this short work with the original Sanskrit text which he will deliver to the Greek authorities in the Peloponnesus. From India, in December 1823." Kephalas, unfortunately, was not so honourable as Galanos had thought. He gave the Sanskrit text to the Vatican Library (catalogued as Vat. Ind. 20; Gildemeister, *Bibl. Sanscritae*...No. 299) and published the Cāṇakya translation under his own name. Kephalas' book made the name of Cāṇakya known in Europe for the first time. Bezout translated the Italian portion into French: *Sentences Morales du philosophe indien de Sanakea*, mises en Francais (Paris, 1826). Albrecht Weber translated the Sanskrit text into German: "Über hundert Sprüche des Cāṇakya," in *Monatsbericht der deutschen Akademie*, 1864.

The 28 pages of the Sanskrit manuscript are excellently preserved and of a somewhat smaller size than the other Sanskrit texts in the Galanos collection at Athens. The yellowish paper bears Devanāgarī characters which are larger than those in the other manuscripts and drawn with much greater care in red and black ink, probably by a different professional scribe. The Greek title under which Kephalas published Galanos' text reads (in translation): "A survey of the Ethical Sayings of the Indian Philosopher Sanakea." On page 7, he vouchsafes the following information in Italian: "Having returned...to Europe and while I was staying in Naples, I did not wish to remain idle, so I translated [the text] also into Italian". He gave the Italian version the title *Sommaria di senteneze morali del filosofo indiano Sanakea*, "translated from the Sanskrit or Brahmin dialect into Greek and Italian by the Greek traveler Captain Nikola Chiefala of Zanta" (Rome, 1825). He starts out with emotional and grateful reminiscences of his forefathers and parents; then he characterizes himself as a sailor and merchant with a literary penchant; only the unstable political conditions in Istanbul, he avers, have prevented him from publishing his Marine geographical dictionary and navigational maps. He does not disclose that he had pilfered Galanos' translation and had also added some sententious sayings of his own to the original text.

Kephalas, nevertheless, says only good things about Galanos, though some of his statements do not necessarily tally with the facts. Having discussed his journey through the vast Indies and "Banares (ancient Casse) which is in effect the seat of the polytheistic and superstitious religion of the Indians," he adds:

> "I found myself in this city and conversing with the wisest and most profound men, I happened to encounter a famous Brahmin, Gajanoung, who presented me with a little book entitled *Sommara . . del filosofo Sanakea*. This philosopher is the most respected among the Indians, and some believe that he flourished at the time of the Rama-Pritarā dynasty, which dates back to the year 2641 B.C. The said book is written in the sacred Sanskrit dialect . . But it was my good fortune to find the Greek philosopher Demetrios Galanos from Athens, who had been living in India for 35 years. A man outstanding in sciences and literatures, and in addition to Greek, in Latin, English and other European and Oriental languages, he is also most erudite in the Sanskrit dialect and in the secrets of the Indians, and is honoured widely by Brahmins and travelers for his wisdom no less than for his righteousness. [This gentleman] I asked to assist me in translating (the book) into our mother tongue and he, good compatriot that he was, consented, since Sanakea was not yet known in any European language."

Kephalas amplified the last sentence in a footnote: "The English, who possess almost the whole of India, do not yet possess this [booklet]"—a piece of knowledge, perhaps gleaned from Galanos, which Kephalas was eager to exploit.

Also in his second book dealing with India, "Description of the city of Benares in India, of Indian Polytheism, its cult, and the customs of those people," (*Descrizione della città di Benarês nell' India, dell' Indiano Politeismo, suo culto, e costumi di quei popoli, fatta dal viaggiatore Cap. Niccolo Chiefala, Greco di Zante nel suo viaggio nel anno* 1824 (Livorno, 1826), favorable words are said about Galanos. Apparently they had talked about the latter's return to Greece, where he would have been considered one of the best informed indologists of his time, not only because of his knowledge, but because of his own numerous manuscripts and translations. To quote Kephalas:

> "In the research which I made at Benares in regard to the Indian religion, I was greatly assisted by the philosopher D. Galanos . . a most respectable and capable man, who, following in the footsteps of Pythagoras and Plato, had initiated himself into all the Indian mysteries (1), and who will one day enrich Europe through his profound knowledge and discoveries."

Again he avows that Galanos had merely helped him with the Cāṇakya translation, nothing more. The footnote in reference to Indian mysteries reads:

> "I.e. [only] in order to instruct himself in their virtues and morals, not to profess the religion of Brahma; thus he is a Christian in reality, not only in name. It is appropriate to observe here plainly that the Brahmins neither receive nor want apostates of any kind."

It is rather ironic that the same Captain Kephalas, at the age of 72 or 74, was still unleashing bitter tirades against all those who had done him wrong, particularly British officials. As in the case of one Consul General who refused Kephalas' bribery attempt, they may not have wanted to play his games.

There is very little we know about Galanos' way of life except that he lived in comfort and was a devout Orthodox Christian. His address in Varanasi is not known. Considering the voluminous work he accomplished it may seem rather academic to speculate as to where and how he received his inspiration. It may have come through the study of the Greek Fathers of the Church in whose writing there often occur attacks against the influx of Oriental ideas in the yet insecure teachings of Christian faith. Mani whose sect is an ingenious composition of Oriental and Western beliefs and rites, was thought to be particularly dangerous to the Church and therefore was often assailed by the Fathers. A peculiar Greek Orthodox form of meditative exercise, Hesychasm, had to defend itself

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constantly against accusations of having its origin in Mani's heretical doctrines, or of being an import from India or Bokhara. The psycho-physical preparation for this meditation is strikingly similar to the eight steps of the Yoga exercise, the "prāṇāyāma" phase in particular. In the 14th century, a serious controversy arose around the practical aspects of Hesychasm. A Calabrian monk, Barlaam, branded them monstrosities, and the practising as "omphaloskopoi" (navel gazers). One of the most learned and dedicated defenders of Hesychasm which was later declared as being purely Christian, was Gregorios Palamas (1296-1360). At the time of Galanos' youth, Hesychasm experienced an unprecedented revival. The issues of the great controversy cannot have escaped his notice, or have failed to arouse his curiosity, since his own teacher in Mesolongion, Palamiris, had his name changed to Palamas, in honour of the medieval theologian. Unfortunately, Galanos did not pursue this subject, at least in written form. (As this writer will try to show in a forthcoming article, which is based exclusively on the scrutiny of pertinent Greek texts and leaves aside all historical speculations, the Oriental aspects in Hesychasm seem to stem from the interaction between early Christian and Sufi practices, rather than being direct imports from India.)

Perhaps we should also mention the Byzantine novel of *Barlaam and Joasaph* which is the story of the Buddha clad in Christian garb. The Greek version of the novel was and still is in the Patmos Library. Also the ancient Greek writers and philosophers who often opaquely referred to the Orient, may have instilled a desire in Galanos to travel and seek first hand experience there.

Such speculations will always remain just that, because Galanos did not choose to tell us why he preferred India "as a residence, without some stronger motive than a fondness for Sanscrit literature" as Bishop Heber put it so scornfully. But the results of Galanos' decision are impressive indeed: He furnished, first of all for his own countrymen, valuable translations of great Sanskrit works of all periods except the Vedic. Galanos' texicographical labors, which unfortunately have remained incomplete, were probably destined to provide his country's prospective scholars with the proper scientific tools with which to engage in advanced studies and to continue the work that he himself had begun as a *xenos* in Varanasi. He had persuaded his nephew to come to India, not so much to provide himself with a traveling companion for the homeward voyage as to stimulate the young man's interest in his uncle's singular work. But he failed to inspire either his nephew or his other countrymen, who mentioned him indeed as benefactor of Athens University, but have not seen fit to establish there a chair for Sanskrit, or even a course dealing with it. Thus Demetrios Galanos has remained the only Greek in modern times who contributed to the knowledge of Indian literature, religion and philosophy. He did it as a genuine scholar, not by reporting and interpreting what he had seen and read and understood, but by furnishing reliable translations, glossaries and original Sanskrit texts.

SOME MEMORIAL MONUMENTS OF WESTERN INDIA

BY

GÜNTHER-DIETZ SONTHEIMER (Heidelberg)

India possesses a rich variety of memorials to the dead and this phenomenon of religion, history and of many other fields of Indian culture remains to be studied comprehensively and comparatively. Prominent amongst these memorials which can be found all over India, especially in Western India, Rajasthan, Gujarat and in the Deccan, but also in Madhya Pradesh, Kashmir, Bihar, are the memorials erected for men who died as heroes in battle or who met with an unnatural death. In close connection with them figure the innumerable *satī* monuments.

This subject calls not only for systematic field research, but also for preservation, because there is the danger, as in so many fields of Indian history, of losing important source material forever. It would be a long list if examples were cited of *vīragaḷas* being used for building houses, roads and walls of forts or lying in a ditch near the road. Occasionally they attract the attention of farmers and are worshipped with *sindura* inside or outside a temple which further hastens their decay. The present paper merely aims at drawing the attention to the needs of preservation and to a neglected, but promising field of research[1].

Before we deal with the special field of the worship of heroes and *satīs*, we want to distinguish — with the help of a few examples — the multiple forms of the general worship of those dead who died a natural death.

In wide sections of the population — leaving aside the brahmanical customs of immolation and ancestral worship — simple stones are planted for the dead, mostly in a *smaśān* outside a village and often near a river. Often small shrines are erected over such stones which, for instance, in Southern Maharashtra, at Huljanti in the Mangalvedha Taluka of the Sholapur District, remind us of miniature megalithic "burials" (Plate I, Fig. 1). These shrines often merge into small temples corresponding to the fame of the deceased and the wealth of his relatives (Plate I, Fig. 2). The whole group of about 100 monuments is clustered near the river to the side of the temple of a famous saint and devotee of a major pastoral god of Maharashtra, i.e. Birobā. The god annually comes at Divali to visit his devotee and disciple. This is celebrated with a big fair. The larger shrines have domes resembling in style those of nearby Bijapur. The grouping of memorials around the temple of a god or the *samādhi* of a saint is frequent and Birobā, the pastoral god, has in many places of Maharashtra a huge cluster of memorial stones with representations of the ancestors of a patriliny.

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[1] A Seminar in Dharwar organized by the University of Karnataka, Department of Archaeology and History, and the present author, has recently drawn attention to these needs.

A curious phenomenon are the "clay tents" about 50 to 80 cms high, which can be found in Maharashtra and elsewhere. They are, at least in Maharashtra, historically connected with some pastoral community and have been compared with tents ("Jurten") from Inner Aisa[1]. Often stones are placed inside, representing the ancestors (Plate I, Fig. 3). From such a cult develops a god of the pastoralists who in turn develops into a protector of fields (*kṣetrapāl*), especially when regular agriculture has come to stay (Plate I, Fig. 4).

The worship of Śiva in the Deccan has frequently led to a large number of small temples accumulating near a *tīrtha*, on the banks of a river which has become more than a *smaśān* or burial and burning ground. A good example is the second capital of the Cālukyas of Badami, Pattadkal. Here, besides the imposing, well-studied larger temples on the banks of the river Malprabha, we find dozens of smaller shrines and the base of the portico, with a *liṅgam* in the middle of it (Pl. II, Fig. 1). M. S. MATE has referred to a similar accumulation of *liṅgam* shrines in Aihole. They are situated at secluded spots near the river as in Pattadkal and, for instance, at Tigowa in Madhya Pradesh[2]. He concludes that they were monuments to commemorate individuals. Again they cluster around a larger temple like the Saṅgameśvar, Vīrūpakṣa and Pāpanātha temples in Pattadkal. One need not go into inscriptions, but can refer to living practice to illustrate the process. An important pastoral god in Maharashtra, for instance, the god Bābīr in the Baramati Taluka of the Poona District, who draws a huge gathering during the Divali *yātṛā*, recently acquired two formidable Śiva-(*liṅgam-*) shrines behind his temple. The main devotee of this god caused these shrines to be built for his deceased father and for himself. If sufficient wealth were available — no doubt this was the case in places like Pattadkal — one would soon see more such shrines erected by the devotees of this god for the sake of acquiring *puṇya* and to ensure commemoration after death or the commemoration of the already deceased, or to assure one's vicinity with Śiva after death.

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[1] See Walter Ruben, *Eisenschmiede und Dämonen in Indien*, Internationales Archiv für Ethnographie, Leiden 1939, p. 165 f.

[2] M. B. MATE and SHOBHANA GOKHALE, "Aihole: an interpretation", in: *Professor P. S. Desai Felicitation Volume, Studies in Indian History and Culture*, Dharwar, at p. 503.

The desire to be near Śiva in the form of the *liṅgam* during and after life, *śivabhakti*, must have been a strong force behind the building of the *liṅgam*-shrines. One need not go so far to postulate the desire of the devotee to merge with the *liṅgam*, as it is said of Lakulīśa, the "founder" of the Paśupati sect or of Basavappa, the "founder" of the Vīraśaiva sect who became one with their god. The idea to worship the god during life and to be close to him in constant worship even after life, and that perhaps on the Kailas, is ubiquitous. It occurs e.g. in the representation of the deceased worshipping the *liṅgam* and *yoni* in *chatrīs* in Rajasthan, e.g. behind the Ekaliṅgjī-Temple near Nathdvara, or on nearly all the *vīragaḷas* where the hero has been a Śaivite.

By far the most widespread and common memorials for the dead are the *vīragaḷas* — Skt. Ka. Ta. — *vīra* = "hero" and Ka. *gaḷa* or Ta. *kalu* = "stone". They are found in large numbers especially in Karnataka and southern Maharashtra. Nearly every old village in these regions owns at least a few of them. Perhaps they have their origin in the menhirs erected even today by the tribals in India. Their origin can already be traced in the old Tamil literature of the 2nd century in which we find the famous reference to the crossroads where the enemies of the king live and where inscribed stones were erected to commemorate the heroes and the robbers, the Malavars[1]. The question whether and how far the wooden memorial pillars, e.g. of the Bisonhorn Murias and the memorials of the Korkūs are influenced from outside or *vice versa* has still to be muted.

Amongst many tribes and castes we find the belief of the spirits of the deceased who have to be confined in a stone and have to be fed periodically[1]. In the upper strata of society we find the belief — leaving aside the notion of the transmigration of souls — that after a complete life which includes the completion of all "sacraments" (*saṃskāras*), the soul ascends to the Kailas. If a life remains incomplete, e.g. because of the omission of a *saṃskāra* like marriage, or because of a violent and unnatural death, the soul occurs in the dreams or hovers around as a ghost with unfulfilled desire causing unrest and damage among the living unless it may be given a stone to rest in it. Or, perhaps a further step in the evolution of the belief, the stone has to be erected to effect the ascension to the gods. In an inscription of the year 1285 A.D. from Coorg we read:

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[1] *Caṅka Ilakkiyam, Malaipaṭukaṭām*, 387 ff. (ed. S. Vaidyapurippollai, 2nd ed. Madras, 1967).

See also B. S. L. Hanumantha Rao, *Religion in Andhra*, Guntur, 1973, p. 268 on the installation of *bāṇa liṅgas* in honour of the deceased.

> .....Mārutamma of Kahigōḍo, joining fighting with his boasting bitter enemies, fell in the fight.
>
> In order that Mārutamma may attain to the world of gods, his younger brother Maliya-nāyaka .. this *vīragal*[2].

This suggests that a stone has to be erected to allow the hero the ascension to the world of gods. But the concept of hero and fame (*vīra* and *kīrti*) is also present and must have been a strong overriding motive in warrying communities who did not have any claims as such to be called Kṣatriyas but who aspired to rise in social and ritual rank. That the erection of a stone had at times to be approved by the ruler seems to reflect this[3]. Many a local princeling, if not dynasty must have originated in such circumstances. If the hero survived he earned the wealth offered by Lakṣmī in the form of donations by the king etc., or he received promotions and insignia[4]. And if he died in battle his relatives were sure to receive royal gifts and insignia, e.g. the honour of a *chatrī* (royal parasol), or the honour of being carried in a palanquin[5]. Death or victory in battle or in a hunt against a tiger etc. indicated special qualification for rank and honour. Spiritually the soul of the hero was considered to migrate to the

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[1] Thus e.g. a passage from a poem of the Caṅkam literature says that the hero became a stone and was fed with sacrificial food and the stone was adorned with a peacock feather. *Puram* 243 cit. by N. VANAMAMALAI, "Herostone Worship in Ancient South India", *Social Scientist*, vol. 34 (May 1975) 40 - 46, at p. 41.

[2] *E. C.* I. COORG 86(7) and 85(6).

[3] N. KASTURI, "The Hero Stones of Mysore", in: *Professor K. V. Rangasvami Aiyangar Commemoration Volume*, 1940, p. 204.

[4] KASTURI, *ubi cit.*, p. 207 f.

[5] KASTURI, *ubi cit.*, p. 207.

brahmaloka, or *sūryaloka* or to the Kailas. We have the well-known Sanskrit śloka from an inscription of Karnataka:

> dvavimau puruṣau loke sūrya maṇḍala bhedinau /
> parivrāṭ, yogabhuktaśca raṇe cābhimukau hataḥ //

As the yogī effects the supernatural, the union with the god by his austerities, the hero effects the same by his fight and death. The fight in itself becomes a kind of religious, yogic exercise to achieve the supernatural. It may be noted here in passing that even today we find so-called *vīras* effecting in themselves by self-mortification the presence of the god, by piercing, for instance, their legs with pointed iron rods[1], or performing a kind of sword dance striking the sharp edge against their body or holding the point of the sword against their body etc.[2]. The sacrifice of one's life or head or flesh to a deity was a frequent occurrence besides the famous self-destruction of faithful followers (the *garuḍas*) of a Hoysala general in medieval Karnataka[3].

The *vīragaḷas* of Maharashtra and Karnataka of the time of the Cālukyas, Rāṣṭrakūṭas, Cālukyas of Kalyāṇī, Hoyṣalas and Yādavas (Seuṇas) of Devgiri generally show two to five reliefs on the front of the slab (Pl. III, Fig. 3). Sometimes we find in Maharashtra square stone columns upto 2 meters high which depict on all four sides the fate of heroes (Pl.II, Fig. 4)[4]. Early precursors of the *vīragaḷas* can be seen e.g. in the Museum Gujari Mahal of the fort at Gwalior. Here the slab is crowned by a bust of the hero (Pl. II, Fig. 2+3). Generally, however, the stones in Northern and Eastern India have less panels than those in the Deccan. Mostly there is just one relief on the top of the stones though they *may* be of the same size like the stones in the Deccan. Thus only one of the herostones of Budhpur in Bihar (Manbhum District) — they are of the 9th-12th century and most of them seem to be in the Patna Museum — has two panels. Another stone characteristic for a *daṇḍanāyaka*, is located in Cuttack and shows a small carving of a warrior below the right side of the main panel[5].

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[1] In Devaragudda at Ranebennur (Karnataka) during Dasarā.

[2] At Vir in the Purandar Taluka of the Poona District.

[3] KASTURI, *ubi cit.*, p. 205 f.

[4] Kikli. (Satara District), Bavde (Sholapur District), Gulunce (Poona District), Bid (Kolhapur District), Precincts of the Bharatiya Itihas Samshodhan Mandal in Poona.

[5] Excavated by K. N. MOHAPATRA. See A. Das, *The Orissa Historical Research Journal*, vol. XV 1/2 (1967) p. 59 and Pl. III.

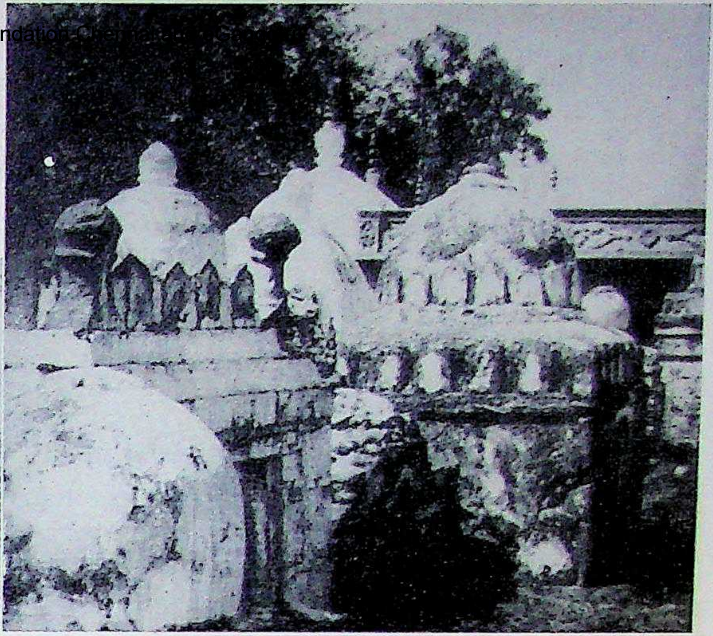


Plate I, Fig. 2

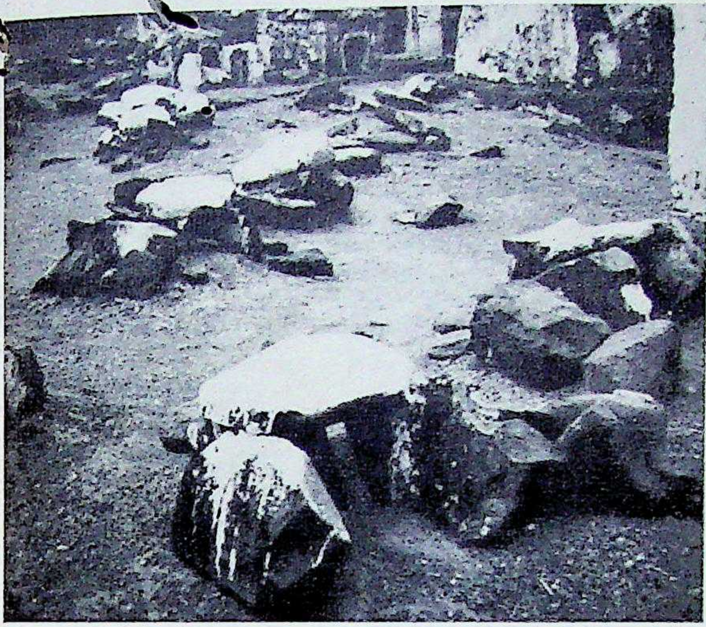


Plate I, Fig. 1

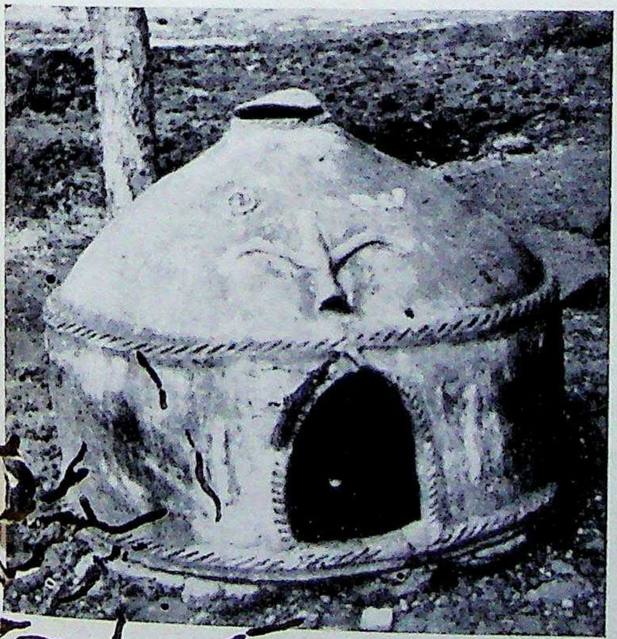
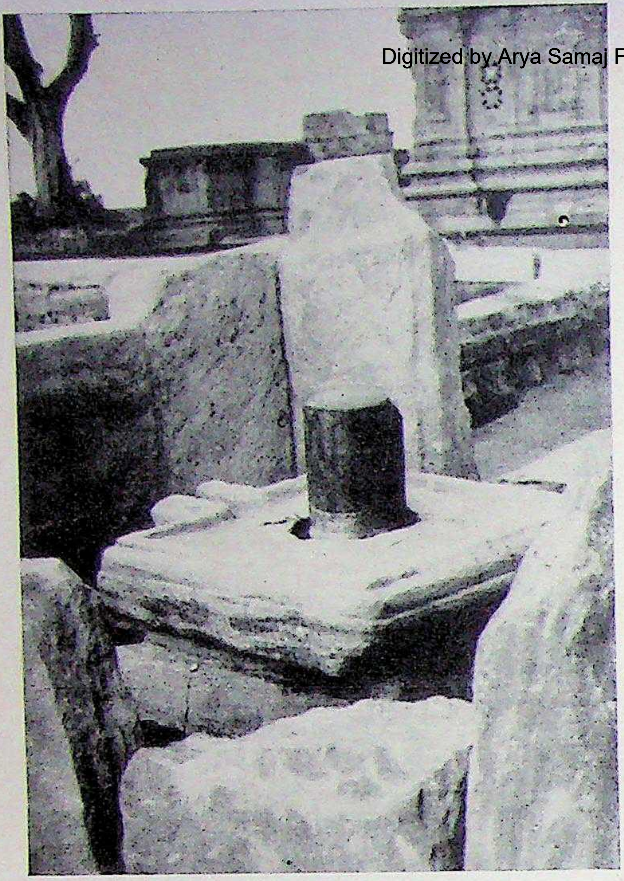


Plate I, Fig. 3

Plate I, Fig. 4



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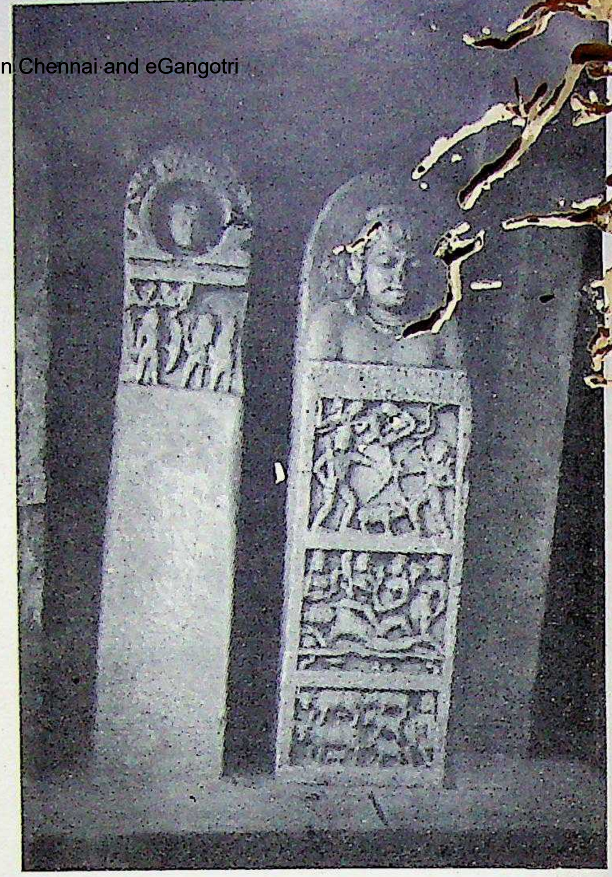


Plate II, Fig. 2

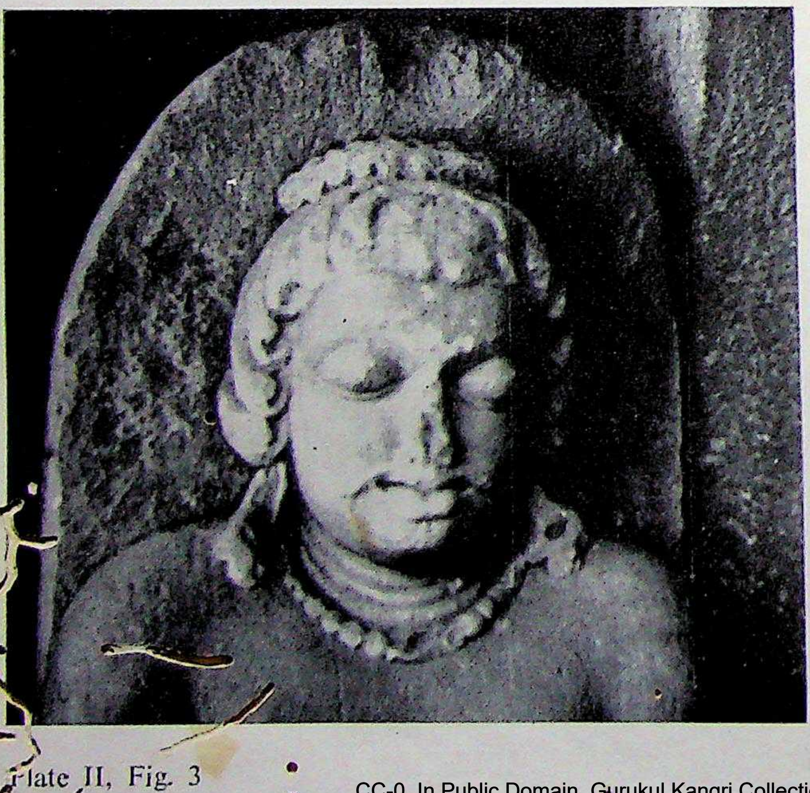


Plate II, Fig. 3

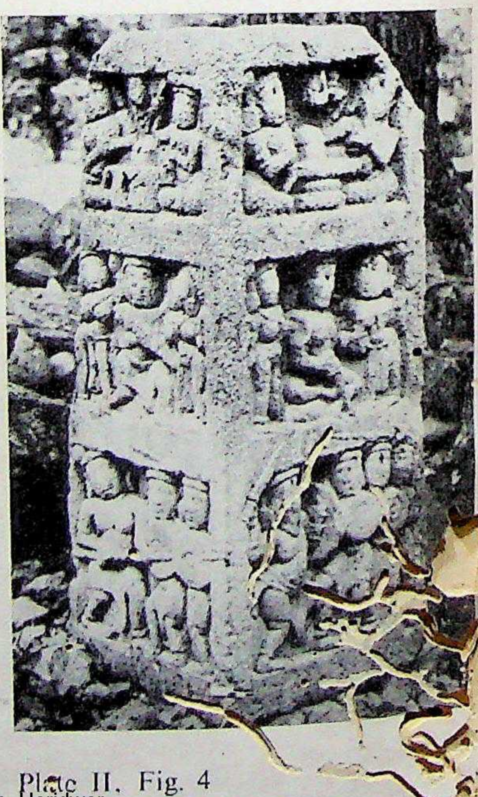
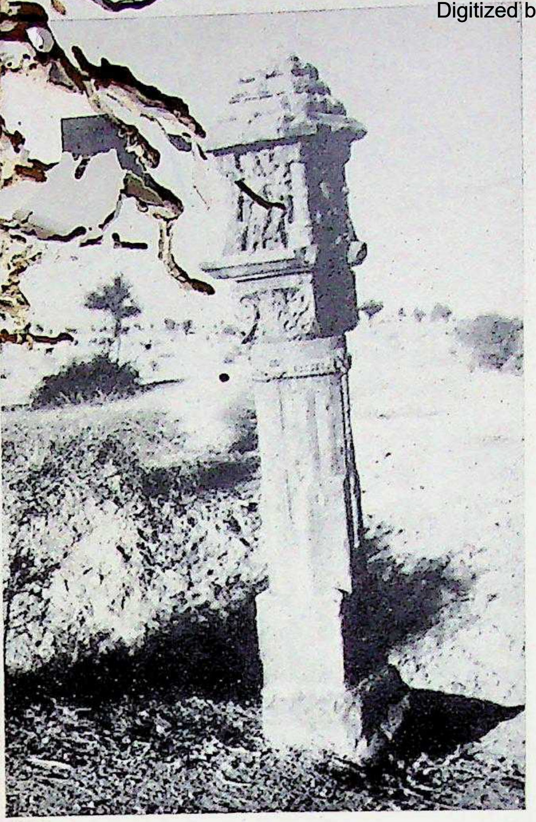


Plate II, Fig. 4



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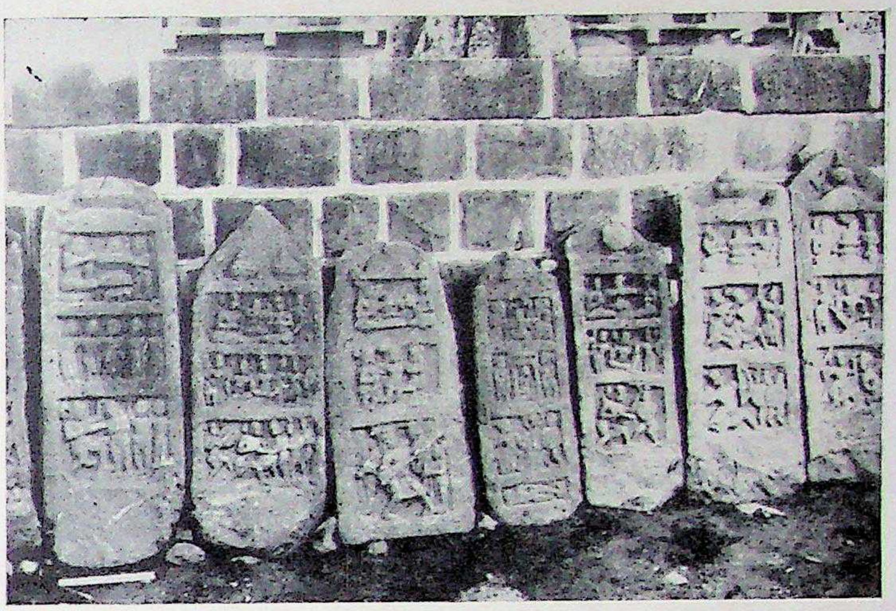
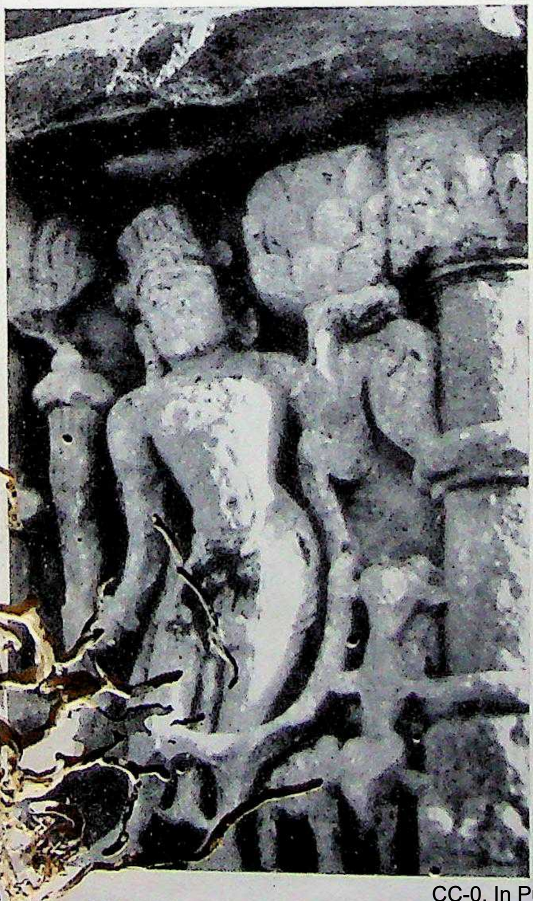


Plate III, Fig. 3



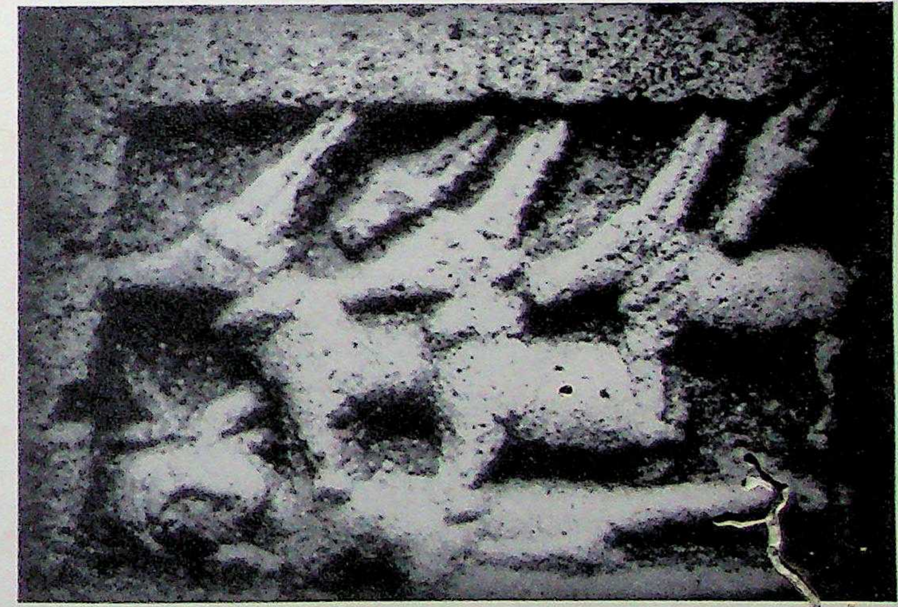


Plate III, Fig. 4

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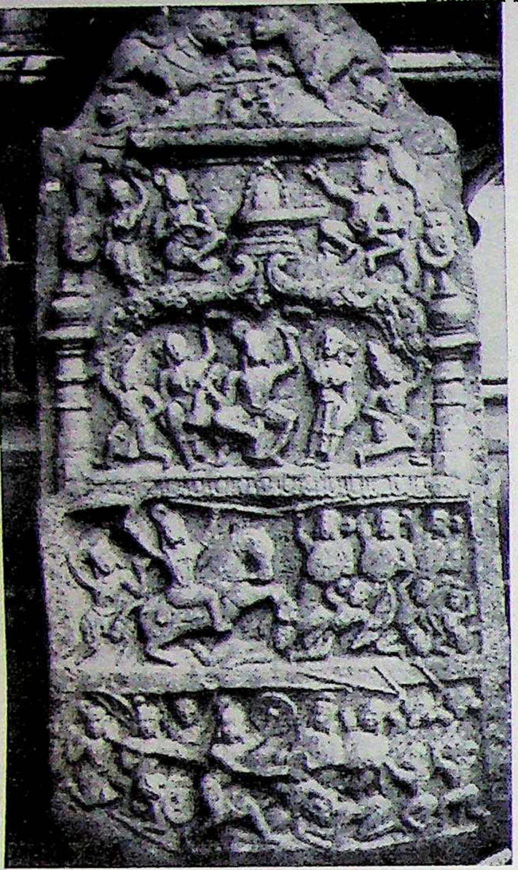

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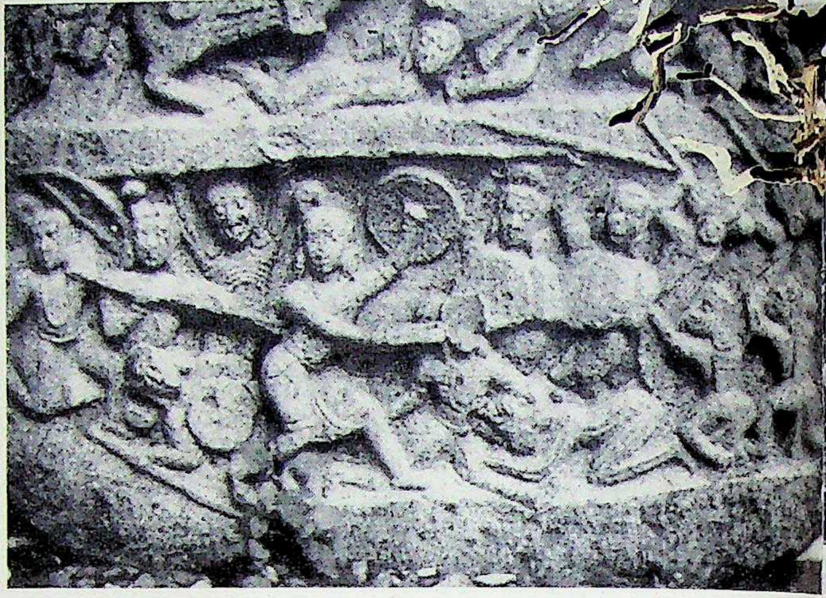

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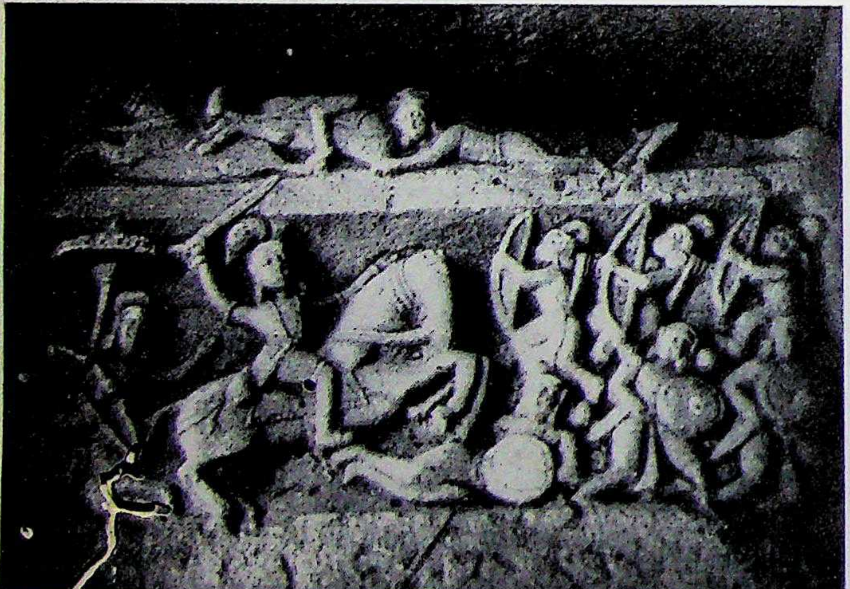

Plate IV. Fig. 3

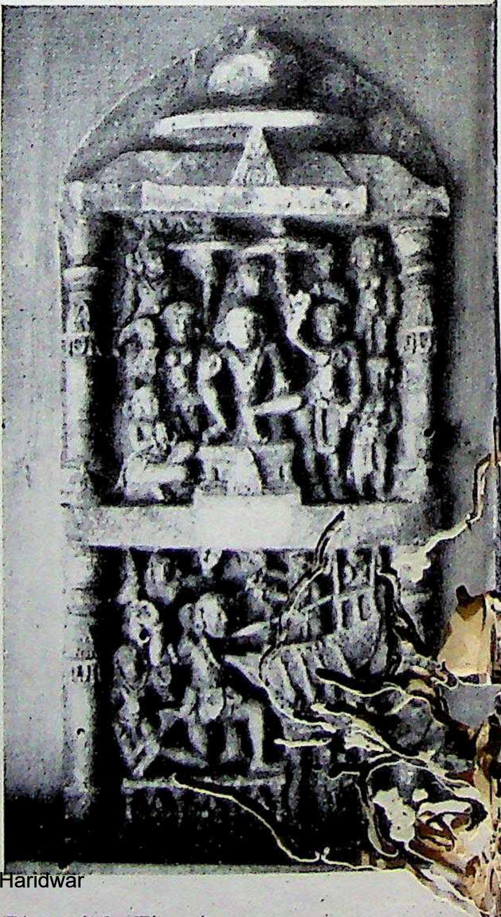

Plate IV, Fig. 4

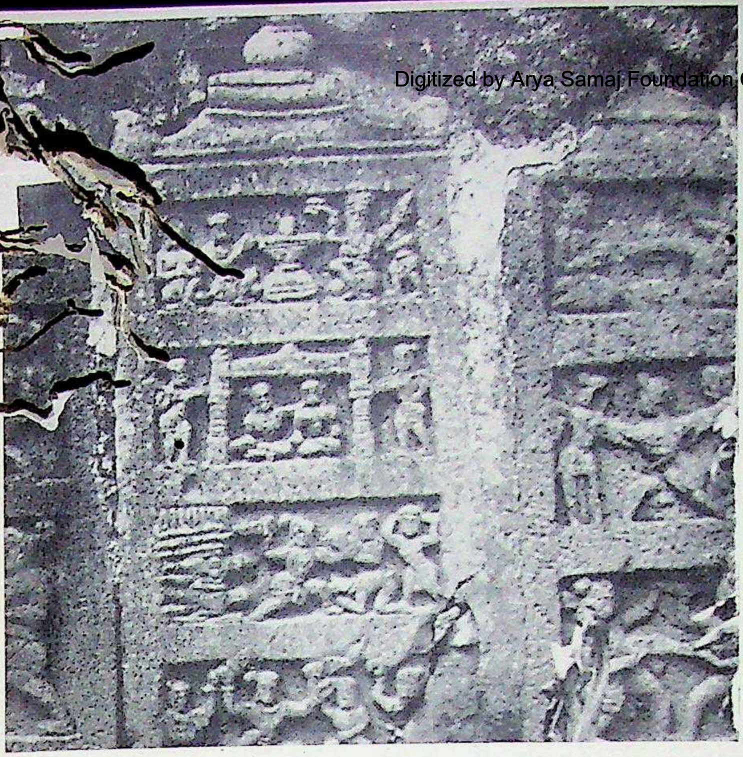

Plate V, Fig. 1

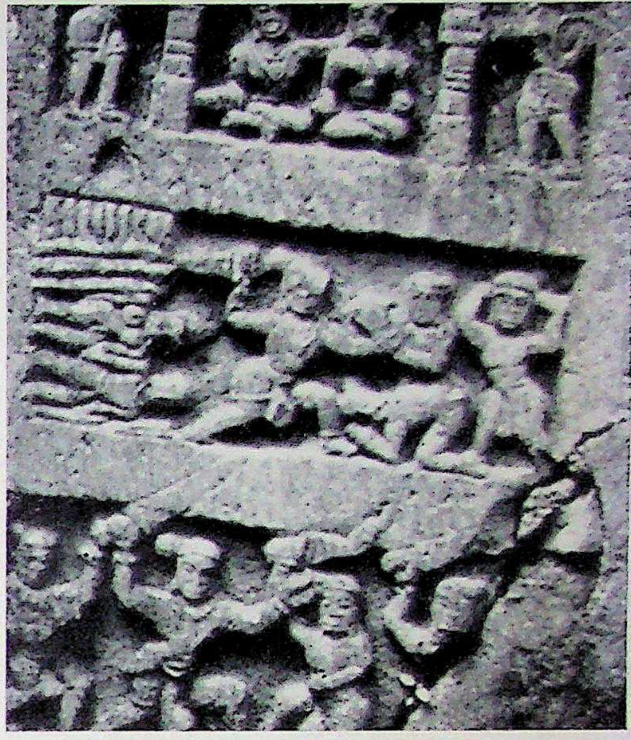

Plate V, Fig. 2

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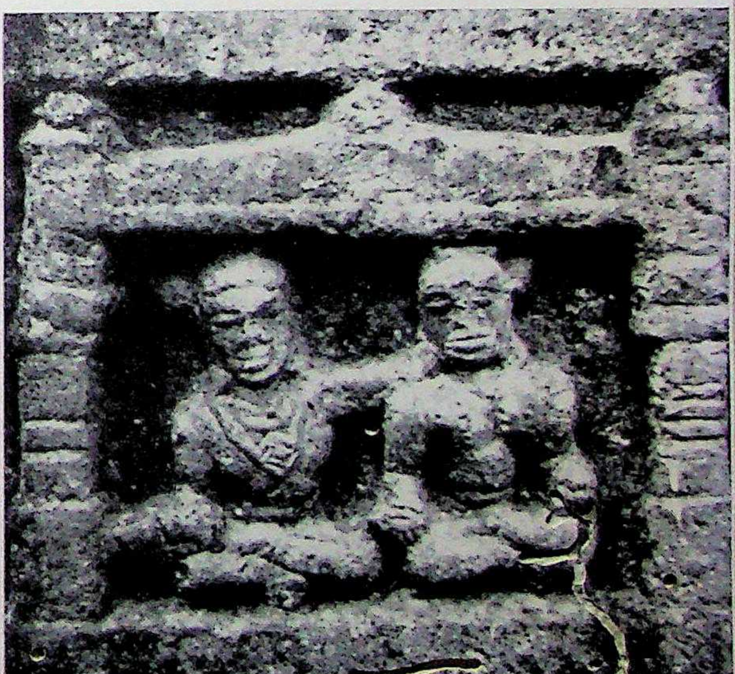
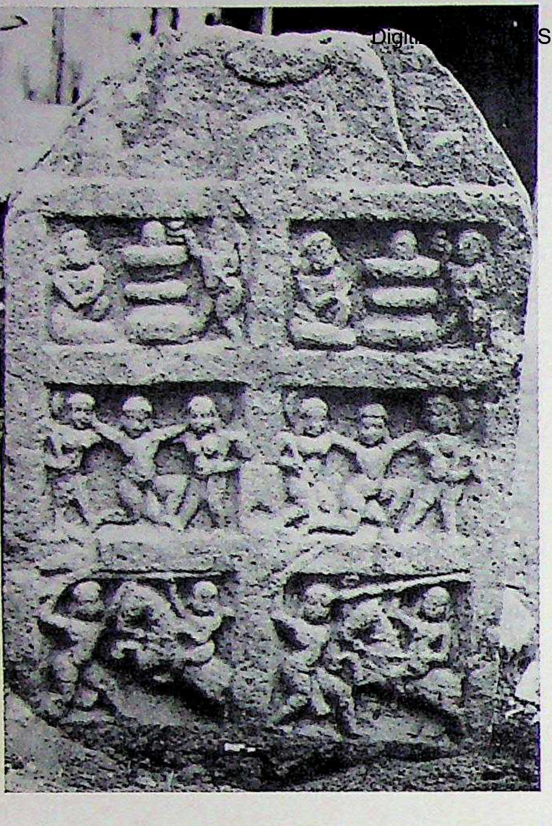


Plate V, Fig. 4



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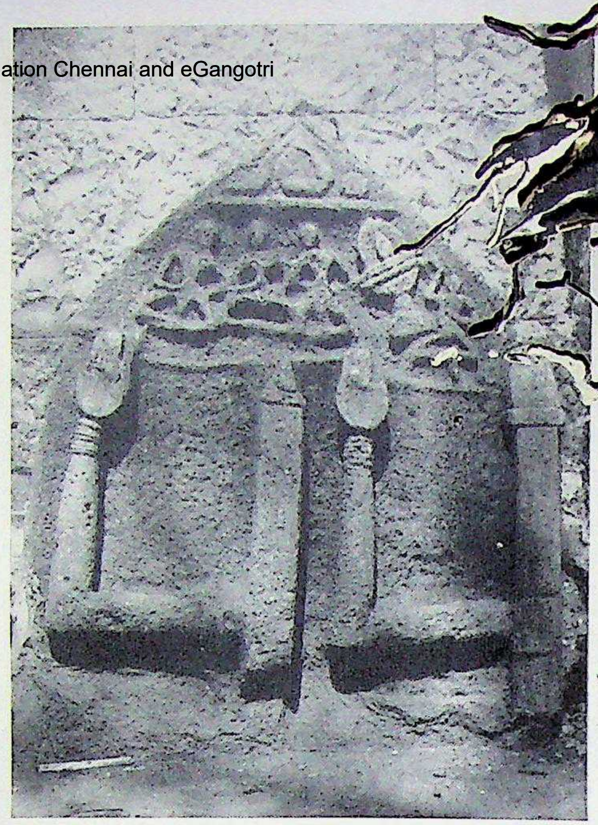

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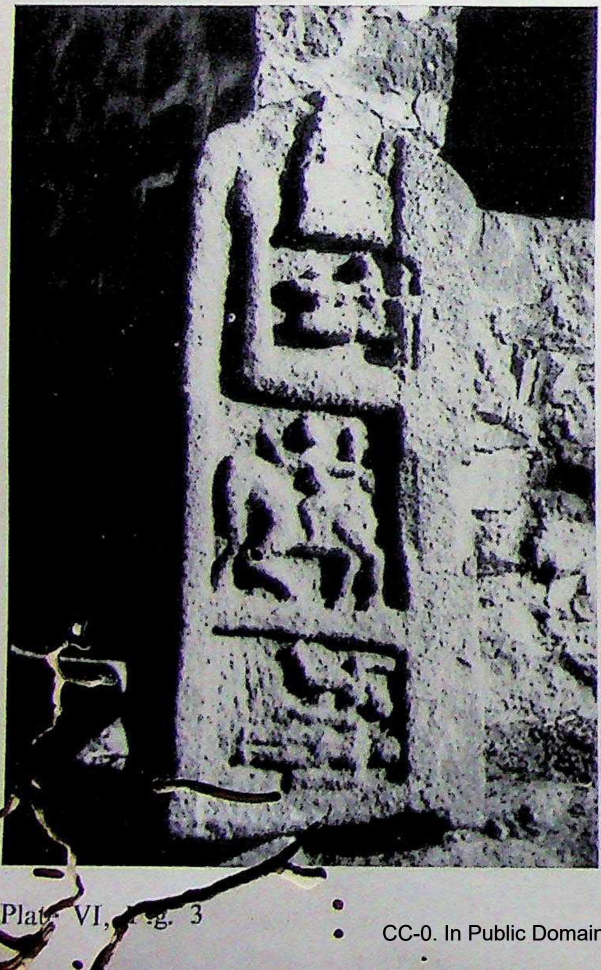

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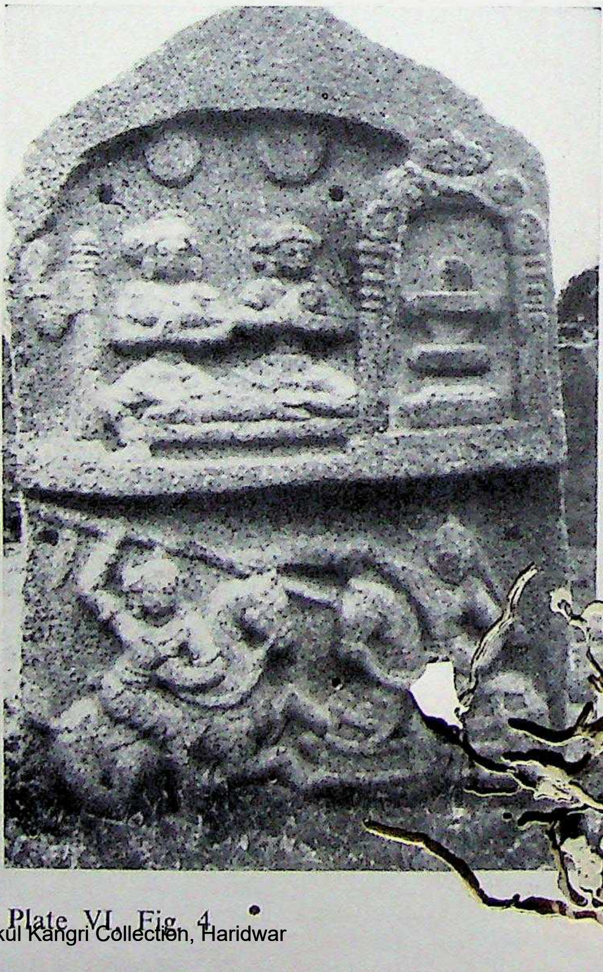

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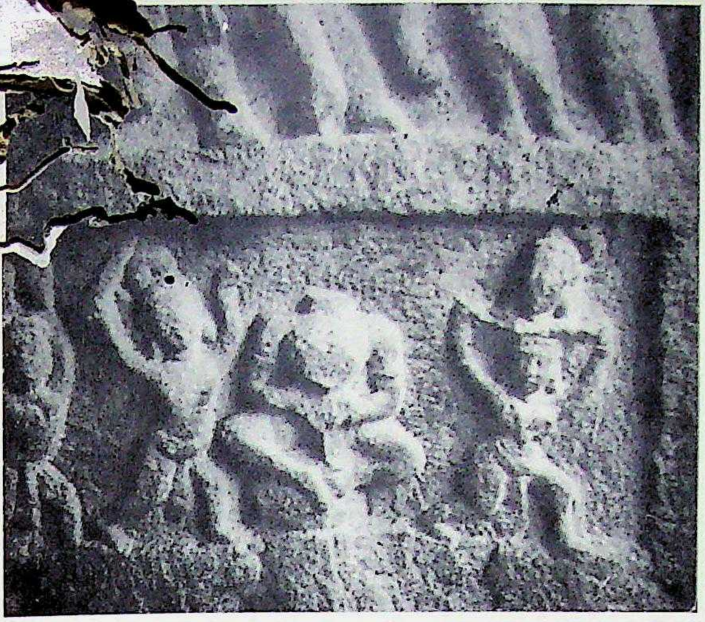

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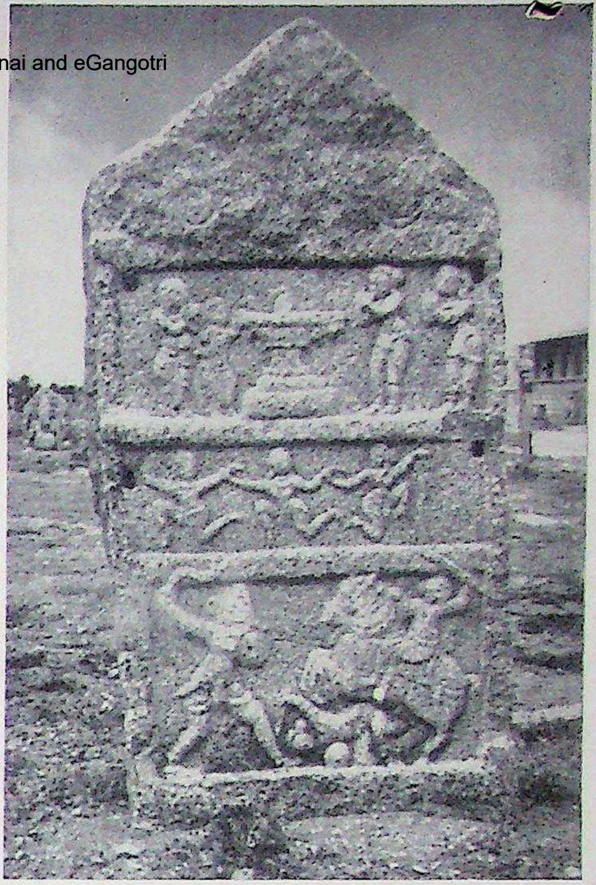

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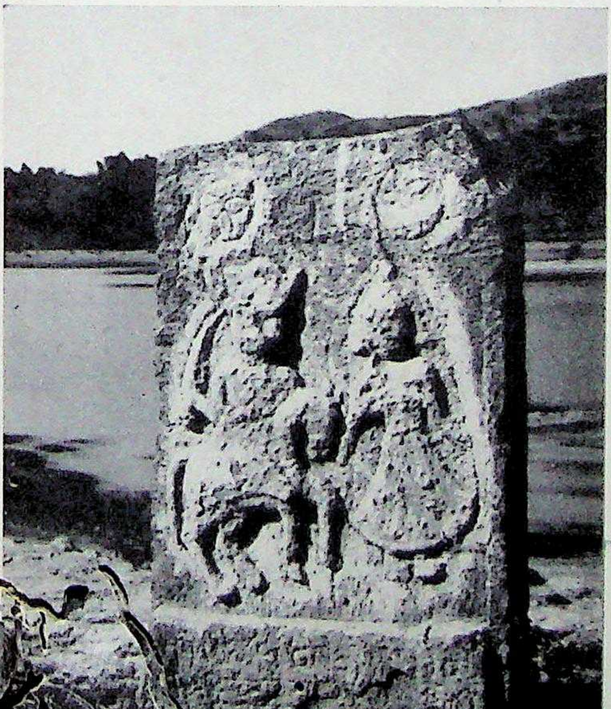

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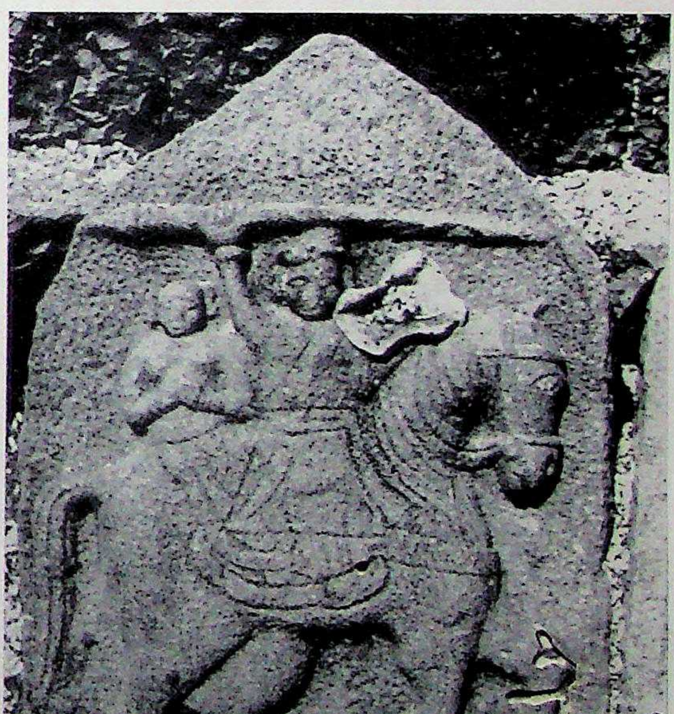

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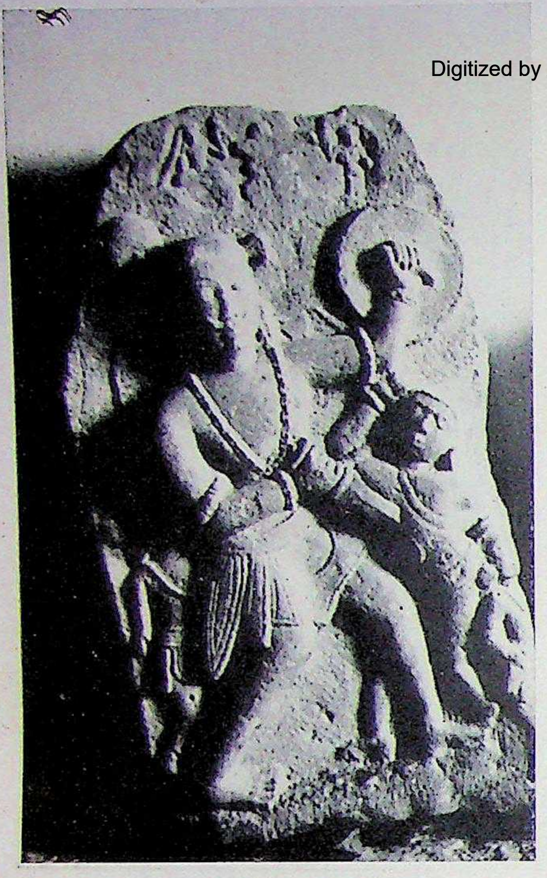

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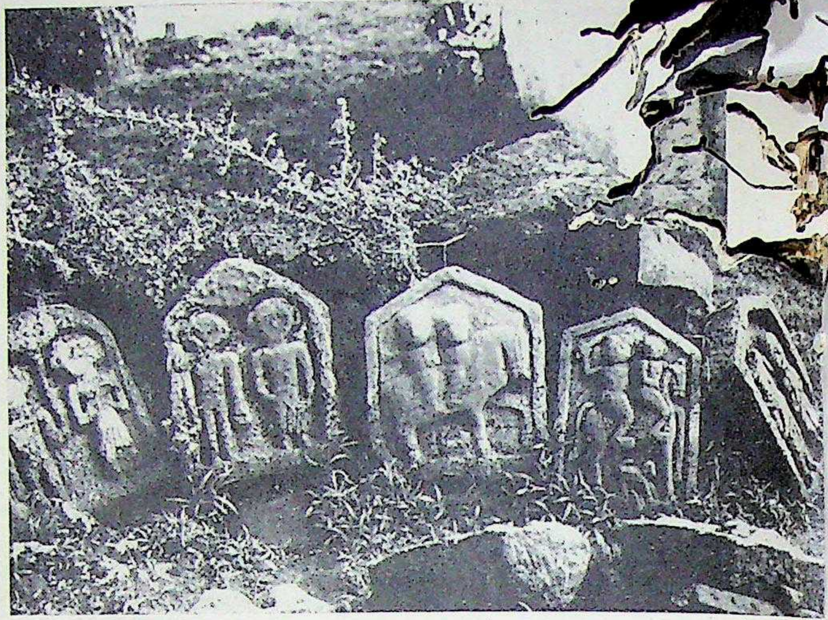

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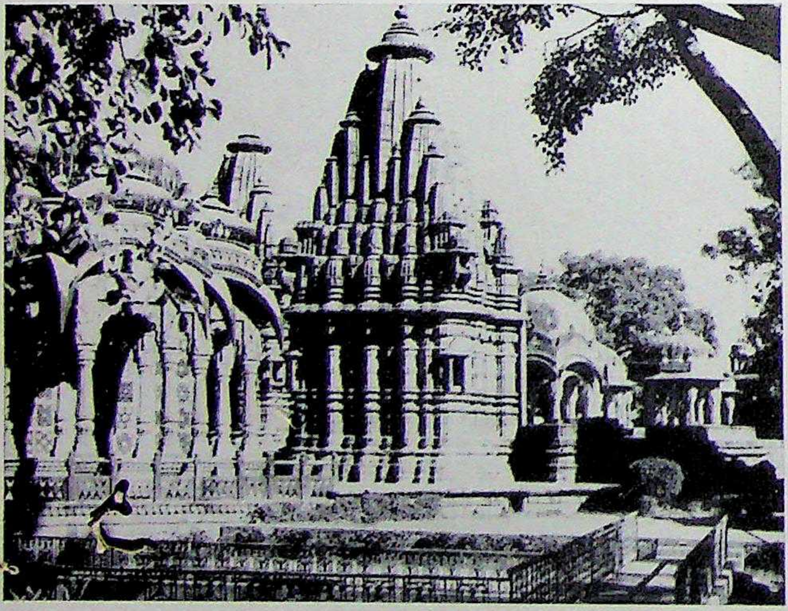

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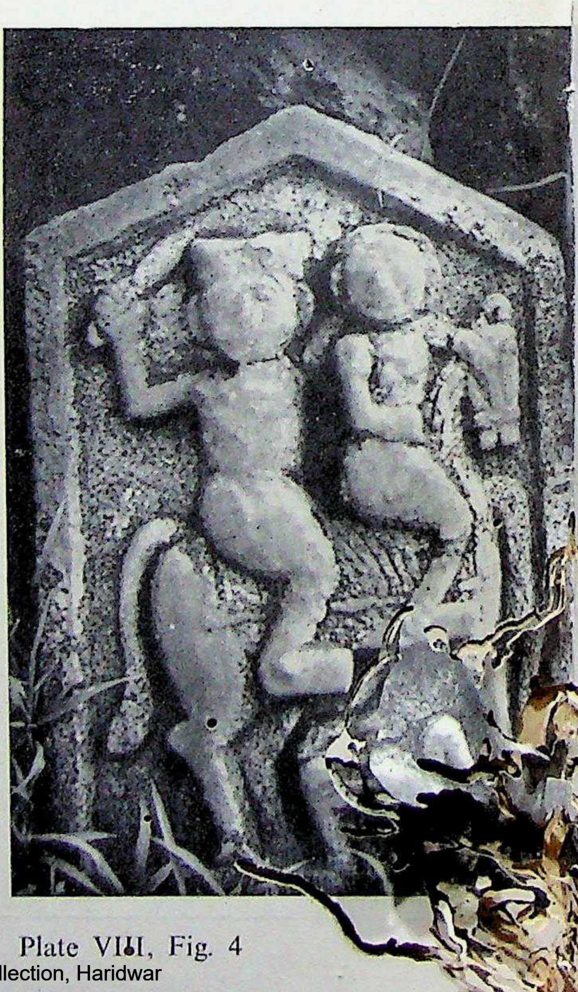

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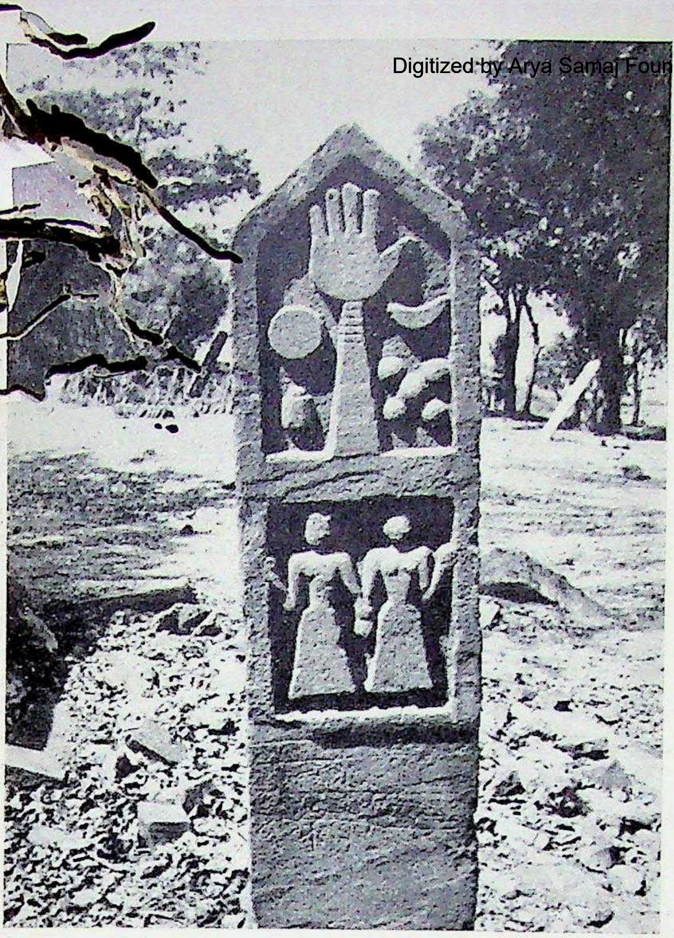

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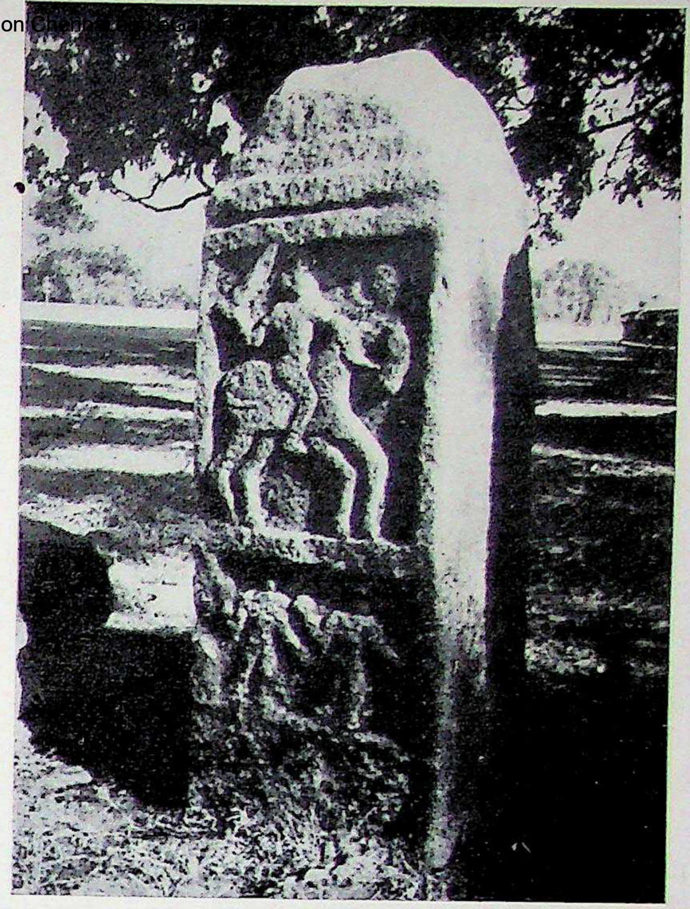

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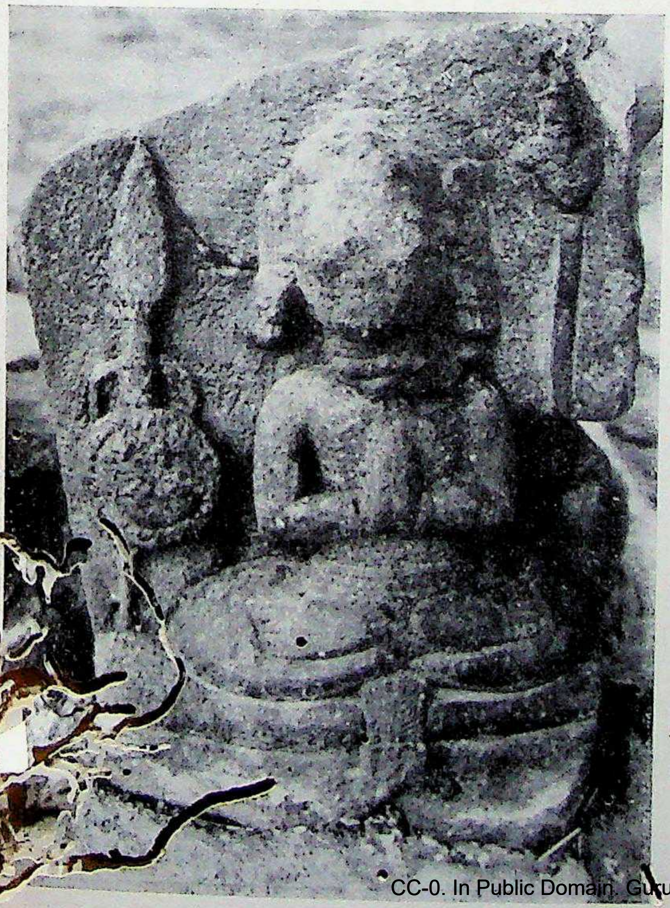
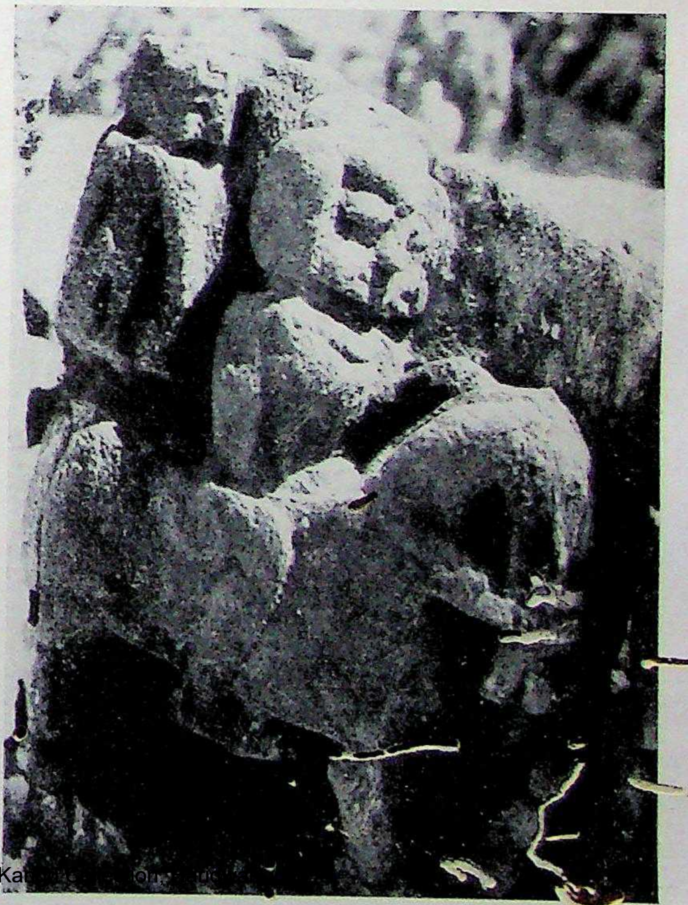


Plate IX, Fig. 3



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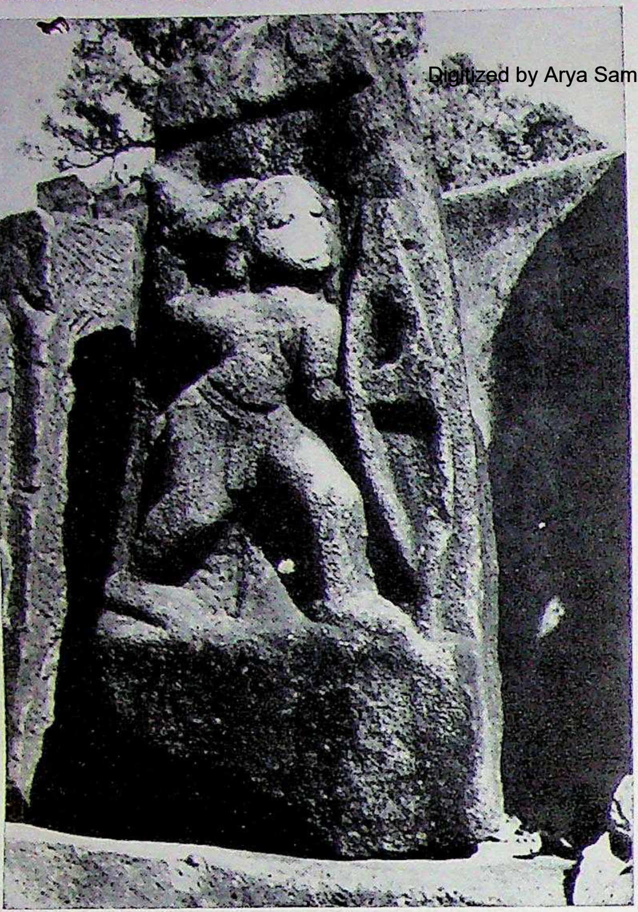
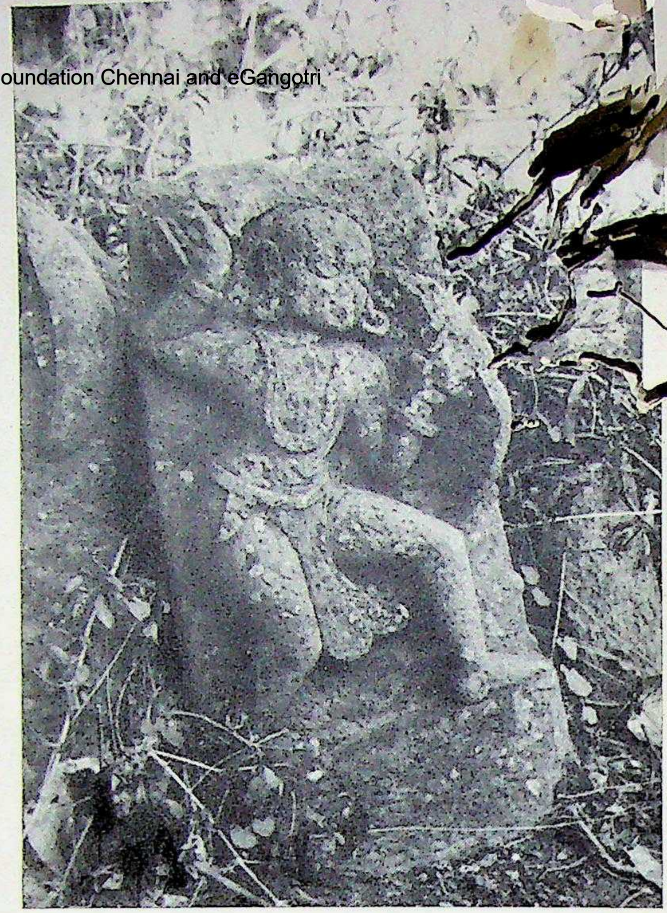


Plate X, Fig. 1



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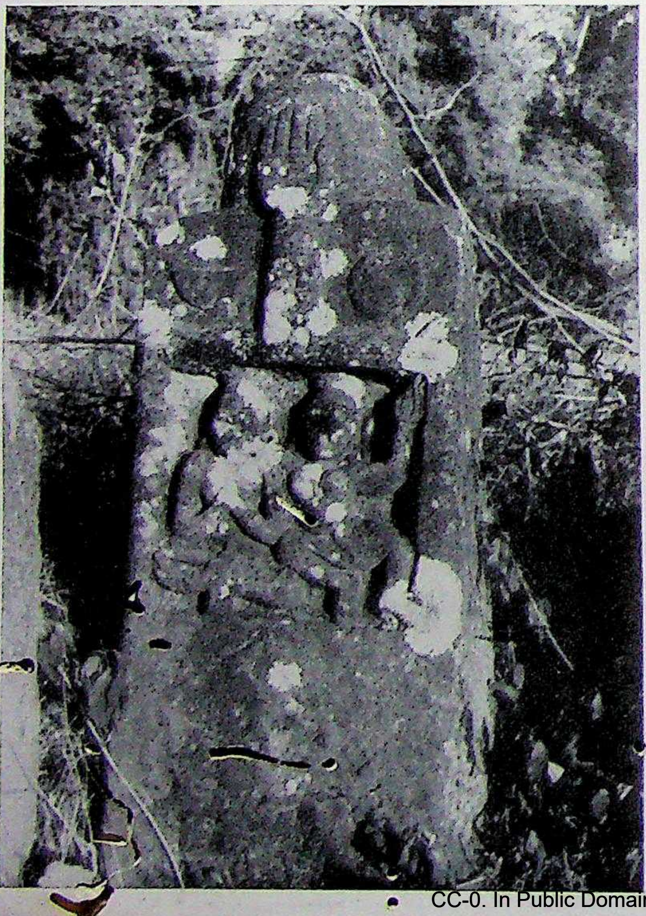

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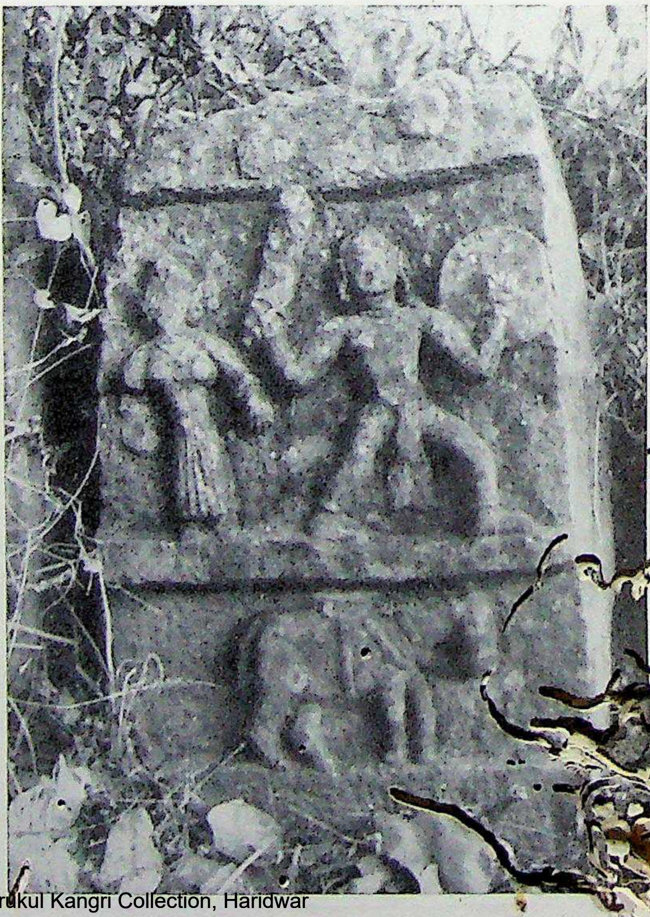


Plate X, Fig. 4

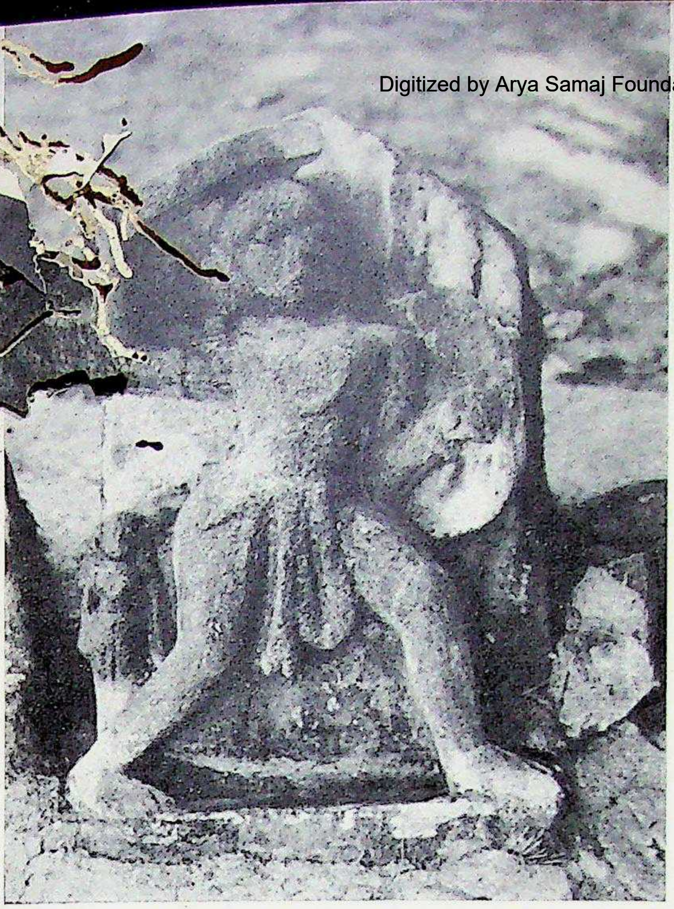
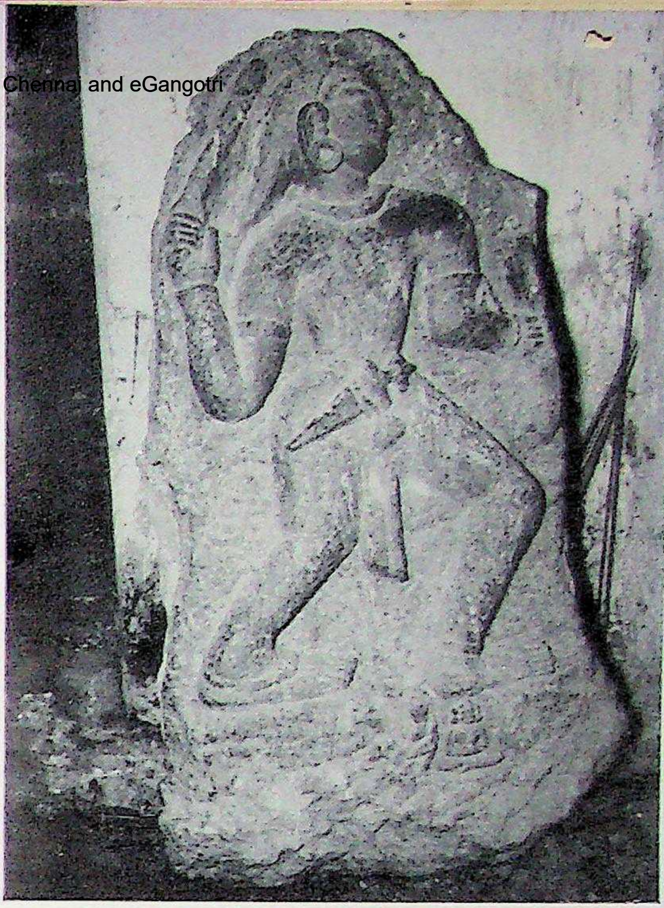


Plate XI, Fig. 1



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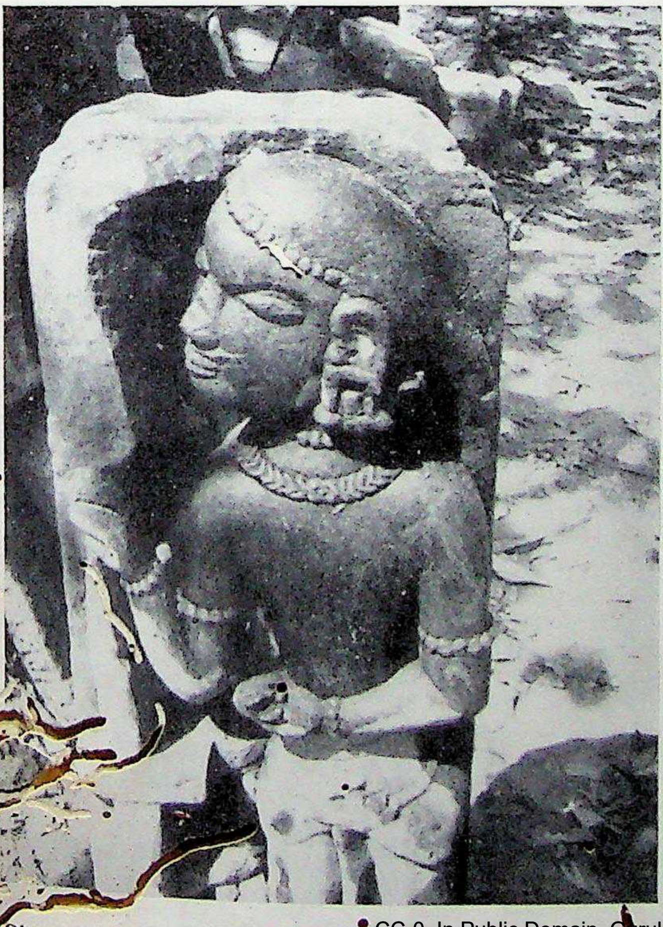

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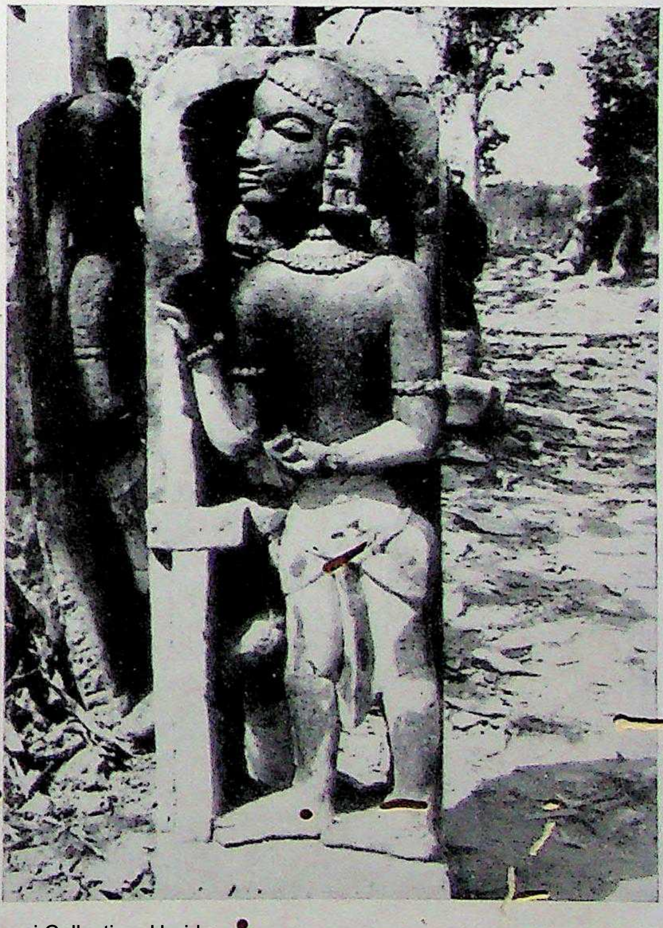

Plate XI, Fig. 4

These stones are very similar to stones found everywhere in Madhya Pradesh, e.g. at Lanji (Balaghat District) within the precincts of the Gond fort, and at Barsur, at Jagdalpur etc. (Bastar District) (Pl. IX and X). Near Lanji, at Bhanutola (Gathadongri), we find also herostones with the depiction of *satī*. They are a Gond ancestor complex and the stones are very similar to the stones of Gond Rajas (17th cent.) now in the State Museum at Bhopal. All these stones just mentioned clearly originated from a tribal context and concern tribal chiefs or tribal *nāyakas*. Some of the herostones which are combined with *satī* depiction at Bara Dhongar and Chapka (both Bastar District) are perhaps influenced by Rajput invasions or may also be stimulated by "Rajputization". They are rather like *pāliyas* with only one relief. The single exception to the one-panelled stones of the Eastern parts of India seem to be the *chāyāstaṃbhas* of Amaravati (3rd or 4th century) which tend to have several panels.

There are other early forms of herostones e.g. in the region of Jodhpur and Bikaner, namely the so-called Govardhana-Kīrtistaṃbhas of the Pratihāra period[1]. The *staṃbhas* are crowned by a structure resembling a miniature shrine. On the four sides of this "shrine" we find sometimes Gaṇeśa, Śiva, Devī and Kṛṣṇagovardhana (Pl. III, Fig. 1 + 2). From inscriptions we come to know that they have been erected for the hero defending the cattle[2] — even today the area around is marked by pastoralism. It is a fair inference — as suggested to the author by R. C. AGARWAL — that the hero's feat was compared with that of Kṛṣṇa protecting the cows against Indra's anger.

Later the Govardhanas tend to become simple *kīrtistaṃbhas* erected for a dead person besides a tank or a temple gifted by him. Brahma, Śiva, Devī, and Sūrya are shown and they are not meant to be herostones[3].

In their pictorial contents the herostones of the Western Deccan reflect in the lowest panel very often their ecological and social environment — which must have been a relatively static feature in pre-British times. In fact, we can refer to the well-known five landscapes or physiological regions of the Caṅkam literature which implies the same static existence of the forest, pastoral, riverine (with rice cultivation), and littoral landscape besides the "desert", which comes into origin in the hot season. Each of the five has its own peculiar fauna, flora, and people with their particular activities[1]. Thus e.g. many of the herostones depict in their lowest relief a cattle-raid, the hero defending the cattle, a stampede caused by the raid, the hero (or the enemy) slewn and lying on the ground and the cattle bending their heads over the dead (Pl. III, Fig. 4). Memorial stones connected with cattle-raids can be found in largest concentration in such areas e.g. Rajasthan, Gujarat, Maharashtra, and Karnataka which can be demarcated as traditional pastoral areas. Here pastoral communities like the Rabaris, Gujars, Abhiras, Gollas, Dhangars, Kurubas etc. abound or here we come across cattle-based villages[2] with cultivation of millets and here widespread regular plough cultivation must have been introduced only after the 'Pax Britannica'. Many a famous dynasty arose from such obscure pastoral origins, whether they were the Holkars, or Gaikwāḍs, or even the Yādavas of Devgirī who according to a much disputed tradition were Gavlīs/Gollas or Dhangars[3]. If one goes to South Karnataka — a typical rice area — one still comes across *vīragaḷas*, but hardly do they depict a cattle-raid, because here the cattle — often male buffaloes are used for ploughing the rice-fields — is not valued with that much exaggeration and is much less frequent than in the pastoral area from where it tends to be imported[4]. If one goes to the coastal areas one frequently finds the depiction of sea-battles, as in the famous, but now decaying, *vīragaḷas* of

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[1] Ratnacandra Agravāla, "Paścamī Rājastān ke kuch pāraṃbhik smṛti staṃbha", in: *Varadā*, April 1963, p. 68 ff., at p. 73 ff.

[2] Ratnacandra Agravāla, *ubi cit.*, p. 74 ff. They are found without *govardhana* carvings upto Panchmarhi and Chindwara (Museum) in Madhya Pradesh.

[3] See H. GOETZ, *Art and Architecture of the Bikaner State*, Oxford, 1950, p.87 f. Kīrtistaṃbhas may be seen in the town of Amber, one e.g. in the precincts of the Gaṇeśa temple.

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[1] See generally XAVIER S. THANINAYAGAM, *Landscape and Poetry*, London, 1966, p. 99ff. KAMIL V. ZVELEBIL, "Pastoralism as Reflected in the Classical Tamil Theory of Landscape", in: L. S. LESHNIK and G. D. SONTHEIMER, *Pastoralists and Nomads in South Asia*, Wiesbaden, 1975.

[2] As e.g., at Koregaon-on-Mul in the Poona District which has numerous herostones depicting cattle raids as in many villages to the East of Poona.

[3] *Cāryugācī Bakhar* (Madras Govt. Oriental Manuscript Library, Ms 1799-1802). According to Jain traditions the first Yādava of Devgiri who made a mark on history was Dṛiḍhaprahāra. by rescuing the village kine. As a reward he was made city-guard by the Brāhmaṇas and other inhabitants who accepted him as their leader by paying him taxes. *Siṃdhī Jaina Granthamālā, Granthāṅka* 10 — *Vividha = tīrthakalpa*, pp. 53-54, cit. in O. P. VERMA, *The Yādavas and their Times*, Vidarbha Samshodhan Mandal, Nagpur, 1970, 14 f.

[4] K. V. RAMESH, *A History of South Kanara*, Karnatak University, Dharwar, 1970 p. XXV.

Eksār, near Borivli. They are said to be of the time of the Śilahāras, of whom one branch ruled in the 13th century Konkan. The last king of this branch, Someśvara, was defeated by Mahādeva, a king of the Yādava dynasty of Devgiri on land and on sea[1]. Today these stones of which three are about three meters high, face a pond and are worshipped as the seven water goddesses (*sātī āsarās*) by the local population. There are many more herostones commemorating heroes in sea-battles of the time of the Kadambas[2]. Some are now in the Museum at Goa (Plate IV, Fig. 3).

Often the lowest relief shows the death of a princeling or local ruler symbolized by a *chatrī* and there is no question of a cattle raid (Plate IV, Fig. 4). The beautiful *vīragaḷa* from Velapur (Maharashtra, Sholapur District) (Plate IV, Fig. 1) seems to depict the rise and death of the hero[3]. The lowest panels of the two-panelled battle scenes show first the hero fighting on foot against a large enemy force and the next panel shows him on a horse and with a *chatrī* in what is probably another battle. The hero may have acquired the honour of riding a horse, he may have become a kind of *śiedlar*, *a daṇḍanāyaka*. In both of these fighting scenes bloodthirsty demons are depicted hovering around the dead and one of them is indeed seen drinking the blood of a dying enemy[4]. To the right of the lower panel (Plate IV, Fig. 2) we find what must have been an auxiliary tribal force, equipped with bow and arrows, some of them having *tutārīs* — war bugles. Velapur has a large concentration of *vīragaḷas* and so has the nearby village of Mhalung. But whereas we find the depiction of a great number of cattle-raids in Mhalung, Velapur has more battle scenes. Perhaps it was one of those important crossroads between North and South and West and East and a scene of frequent battles.

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[1] COUSENS, R., *Medieval Architecture of the Deccan*, 1931, ASI, New Imperial Series, vol. 48, p. 21. *Maharashtra State Gazetteer. History. Pt. I — Ancient Period*, Bombay, 1967, p. 261.

[2] G. M. MORAES, *The Kadamba Kula*, Bombay, 1931, p. 261. Memorial stones with the depiction of a ship are also found in Kathiawar, e.g. near Dwarka in the village of Ārambhaḍā (14th century). See CANDRAMAULI MAJUMDAR, *Lokagurjarī*, Annual No. 4, March 1969, S. 15 ff. See also H. GOETZ, "Rajput Reliefs — I", *Oriental Art*, vol. X/3 (1964) 163-168 and fig. 2.

[3] The stone comes from Velapur originally.

[4] There is another unnoticed stone with similar representations of *bhūts* in Mhalung; the significance of the scenes in this stone remains obscure.

The middle panel shows as a rule *apsaras* carrying the hero towards heaven and a herostone from the Museum at the Gol Gumbaj in Bijapur seems to indicate a cloud. Such clouds are also found on the herostones at Bettigeri (Gadag) which belong to the Rāṣṭrakūṭa period and on herostones on the Dharwar-Goa road (124 miles before Goa). Sometimes we have celestial musicians and spirits. Sometimes a palanquin or a shrine is shown in which the hero (and his wife) is carried towards heaven. The topmost panel depends on the religion of the hero.

(a) In most cases the hero worships Śiva, represented by the *liṅgam* to which the *nandī* is sometimes added. To the right of the *liṅgam*, seen from the viewer, the priest is seated. There is a great variety in the types of priests. In their left they mostly hold a *ghaṇṭā* — a bell — most common amongst the Liṅgāyats, the right hand holds a *dhupārtī* = censer. On the *liṅgam* a garland of flowers is often placed.

(b) If the devotee was a Jain, the topmost relief depicts the worship of Mahāvīra or a Tirthaṅkara.

(c) In the Kolhapur Museum some stones, which were found near the temple of Mahālakṣmī, show in their topmost panel the hero worshipping this famous goddess.

In the topmost panel or above it the sun on the left and the moon on the right are often depicted. According to Kannada inscriptions this would mean that the glory of the hero would last as long as the sun and the moon.

The herostone is often topped by the *kalaśa* and in fact the whole stone is often fashioned like a temple or a shrine. Sometimes two or three *kalaśas* are sculptured and the panels below accordingly show the death of two or three heroes. At several places herostones vertically divided into two identical sequences showing the fate of two heroes have been found, e.g. in Kakli (Satara District) and Limbut near Nira (Poona District) (Plate VI, Fig. 1).

It would be interesting to know whether one could see an origin of the *kalaśa* in the urn-burials of megalithic tombs. In some places of Western India the *kalaśa* resembles the Buddhist *stupas* and in any case many of the ancestral memorials of this area resemble the cluster of *stupas* at the Bhājā Caves.

The custom of *satī* existed from earliest times, e.g. the Greeks noticed it amongst the Scythians, though it was rare in ancient Indian literature and is unknown amongst the tribals. Perhaps it was a custom imported from Inner Asia which was maintained among such warrying tribes like the Gujar, Rajput Saka, Hūna and Turuṣka and eventually became respectable among the gentry or the people aspiring for gentry. It may have been strengthened by the brahmanical bar to divorce and remarriage of widows in the upper castes. Apart from the usual hand- and arm-symbol which is found rather early amongst the stones of the late Gupta period at the Gwalior fort we want to draw attention to a 12th century or 11th century stone which combines the death of the hero and *satī*. The stone is in Bid near Kolhapur (Plate V). The first panel from below shows the usual fighting scene, the second husband and wife lying on the pyre; wood and flames are indicated (Plate V, Fig. 1-3). The third panel shows the couple in a kind of palanquin, shrine or celestial vehicle ascending to heaven, and the top panel shows the couple in front of the *liṅgam* and *yoṇi* (Plate V, Fig. 1 and 2). In Kumbharvalan (Purandar Taluka, Poona District) an otherwise ordinary herostone with several panels shows in its lowest panel the widow seated on the pyre besides her dead husband. Her arm is stretched towards heaven as if she were blessing the living. Eventually the depiction of arm and hand of the *satī* bent at the elbow and emerging from a post prevails (Plate VI, Fig. 2 and 3). The post has never been properly explained, because the explanation that the wife was tied to a post and that this is indicated by the post seems unlikely. The fact that a right arm and occasionally the left arm is shown may have sometimes to do with the caste of the wives. It could not have simply been a first and a second wife of the same caste, as there are stones — indicating the simultaneous immolation of two wives — which show two right arms and hands (Plate VI, Fig. 2). The wife, becoming a *satī*, i.e. the "pure" or "faithful", does not really "die" and does in fact not become a widow, but ascends with her husband to the Kailas or becomes his wife in the next life. Thus the "wife" ascends the pyre fully adorned and only the one who stays alive to becomes a widow has to break the bangles. The bangles are invariably depicted on the raised arm of the *satī*. Her actual identity may be forgotten and she often becomes a goddess in local belief. A *satī* stone in the Gwalior Fort Museum shows the couple in the typical pose of Umāmaheśvara indicating a close identification of the dead couple with Śiva and Pārvatī. This depiction on *satī* stones is very widespread in Madhya Pradesh. "Arm and hand" indicates according to Kannada inscriptions that she extended "arm and hand" to her husband[1]. The hand may signify blessing and has the effect of magical power to resist evil spirits as the handprints on walls or entrances of houses all over India. Hand prints of hands dipped into turmeric powder (Marathi = *bhaṇḍar*) and printed onto the shirts of devotees of a god, as e.g. at the *yātrās* for Khaṇḍobā in Maharashtra, are taken as the handprints of the god himself. They have a very auspicious strength. In Rajasthan eventually only the red handprints of the *satī* on a wall prevailed.

Not only the suicide of *satī*, but also the suicide of servants and faithful followers of a nobleman or king seems to have reached a fanatical climax in the medieval Deccan. Suicide could take place also in the fulfilment of a vow to sacrifice one's life, if the king wins a war, gets a son etc. Interesting samples of this are again found in Velapur (Plate VII, Fig. 1) and other places nearby with a beautiful antecedent from Mangalvedha (Sholapur District) of the time of the Western Cālukyas of Kalyani.

The last multipanelled herostones are of the Vijayanagar period (Plate VII, Fig. 2). But it seems that corresponding with the conquest of the Deccan by the Muslims, their cavalry and Rajput garnisons, the simple, smaller one-panelled *pāliyā* (Plate VII, Fig. 3) with the depiction of a horseman replaces the multipanelled herostone, though the slab without panels showing the hero killing an animal or depicting a hunt was even before never completely absent (Plate VIII, Fig. 1). But with the arrival of the *pāliyā* — the term itself is unknown in the Deccan — the notions of ancestral worship, hero worship and commemoration of respectable, powerful personages seem to combine (Plate VII, Fig. 2). The dead warrior is shown with his weapon and on a horse carrying him and his wife (or his two wives) much in the same fashion as the god Khaṇḍobā (Plate VIII, Fig. 3) or the legendary heroes of Rajasthan are depicted. Very frequent are the ancestor slabs showing the deceased standing with hands folded and flanked by his wife or wives (Plate VIII, Fig. 2). Perhaps the multi-panelled, wooden funeral pillars of the Korkus and Bisonhorn Murias[2] and the wooden memorial *khaṃbas* in Gujarat[1] reflect the earlier multi-panelled *vīragaḷas*. Similarly the *chatrīs* of the Rajputs also entered Maharashtra, whereas in the *chatrībāgs* of Rajasthan it becomes difficult to make out whether a memorial is a Śiva temple or a cenotaph of a king, e.g. that of Ajit Singh at Mandor which was completed in 1793. In the sanctum there is no *mūrti*. On the *śikhara* we find the *kalaśa* or the *amulatā* (Plate VIII, Fig. 4).

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[1] Kasturi, *ubi cit.*, p. 205.

[2] Verrier Elwin, *The Tribal Art of Middle India*, rev. ed., Bombay, 1949, p. 90 ff. Ajit Mookerjee, *Indian Primitive Art*, Calcutta, 1959, pp. 62-66.

Only a few samples of the material collected could be given here to show the relevance of a little-explored subject, which may offer contributions to the history of the warrying groups in the West and South of India. Of them the Āryan kṣatriyas of the Sanskrit texts are only one successful group. Research beyond the texts throw light on the role of those groups of nomads, pastoralists and forest tribes in India as warriors and soldiers aspiring to rise and responsible for the making of many a dynasty.

Acknowledgments for Plates:

The photographs are by the author except Fig. 4 on Plate II and Fig. 1 on Plate VI which were photographed by Mr. L.R.A. Jamsanekar, Dept. of Archaeology, Maharashtra State. These two photographs are reproduced by Courtesy, Director of Archives and Archaeology, Maharashtra State, Bombay. Fig. 2 and 3 on Plate II are published by Courtesy of the Dept. of Archaeology and Museums, M.P., Bhopal. Fig. 1 and 2 on Plate IV by Courtesy, Curator, Museum, Goa. Fig. 3 on Plate IV, Fig. 4 on Plate VI and Fig. 2 on Plate VII by permission of the Director General, ASI, New Delhi. Fig. 1 and 2 on Plate IV published by Courtesy of the Trustees of the Prince of Wales Museum, Bombay.

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[1] See EBERHARD FISCHER and HAKU SHAH, "*Vetra ne Khambha*", *Memorials for the Dead*, Gujarat Vidyapith, Ahmedabad, 1973, pp. 25 ff. and plates 29 ff. This book and the same authors' *Rural Craftsmen and Their Work*, Ahmedabad, 1970, give interesting details on the religious and social functions and living traditions of memorials.

ON THE SHADOW THEATRE IN INDIA

BY

VALENTINA STACHE-ROSEN (Bangalore)

When in 1935 the German scholar O. SPIES saw a shadow play performance in Bangalore district, and a report on it appeared in the Zeitschrift der Deutschen Morgenländischen Gesellschaft, it was hailed as a sensational discovery, for it settled a controversy about the shadow play in India among German indologists. R. PISCHEL, G. JAKOB and H. LÜDERS had maintained that such an art must have been in existence and they cited literary sources of ancient India, whereas others were more sceptical. Among these M. WINTERNITZ even went so far as to argue that it was quite impossible that there ever had been shadow play in India since no trace of it could be found in the present day.

R. PISCHEL had put forward his point of view in a paper "Das Altindische Schattenspiel" in 1906 (Sitzungsberichte der Königlich Preussischen Akademie der Wissenschaften). He discussed the Sitabenga cave in the Rāmgarh hills in Chotā Nāgpur, which has seating arrangements for about 30 people. Near the entrance, a number of holes in the ground are said to have been made for props to hold a curtain. An inscription of the 2nd century B.C. mentions poets, and so PISCHEL thought that poetical works, especially shadow plays might have been performed in this cave. As proof for the shadow play in ancient India, PISCHEL quoted a verse from the Mahābhārata, which mentions *rūpopajīvanaṃ*, and the 17th century commentator's explanation of this term: *rūpopajīvanaṃ jalamaṇḍapaketi dākṣiṇātyeṣu prasiddhaṃ yatra sūkṣmavastraṃ vyavadhāya carmamayair ākārai rājāmātyādīnāṃ caryā pradarśyate* (*rūpopajīvana* is known as *jalamaṇḍapika* with the Southerners. After having put up a thin cloth, leather figures show the actions of kings and ministers etc.) PISCHEL also pointed out that the term "*sūtradhāra*" — the man who holds the strings — for the director of a classical drama proves the close connections that must have existed between the puppet show and the theatre.

H. LÜDERS, in the same context, discussed in a paper a reference to the *Śaubhikas* in Patañjali's Mahābhāṣya. (Die Śaubhikas, ein Beitrag zur Geschichte des indischen Dramas, Sitzungsberichte der Preussischen

Akademie der Wissenschaften, 1916, und Philologica Indica, 1940). The Śaubhikas tell of the arrest of Bāli and the death of Kaṃsa, while those who are referred to as *pratyakṣaṃ* — present before the eyes — enact the story. These *Śaubhikas*, LÜDERS argued, can only be shadow players, who commented upon the action of the puppets. This is confirmed, in LÜDERS' opinion, in the 10th century work Nītivākyāmṛta by Somadeva, in which a Śaubhika is explained as a man who makes several persons visible at night on a screen made of cloth. (Nītivākyāmṛta 55, 5-6: *śaubhikaḥ kṣapāyaṃ kāṇḍapaṭāvaraṇena nānāvidhanāmarūpadaraśī*).

To this literary evidence which, however. did not convince the sceptical M. WINTERNITZ, a few other references to shadow players in literature may be added. *Śobhikas=śaubhikas* are mentioned — together with actors, singers and wrestlers — in several Buddhist works, e.g. Śikṣāsamuccaya (Buddhist Sanskrit Texts No. 11, Darbhaṅga 1961, p. 176) *te vividhehi upāyanayehi loke vicāri karonti jagārtham | loki alipta jale yatha padmaṃ prītiprasādakarā vicaranti || kāvyakarāḥ kavirāja bhavanti te naṭanartaka-jhallakamallāḥ | utkuṭaśobhikahārakanṛtyā māyakarāḥ pṛthurūpanidarsī ||* (They walk the earth working for the world's good in every possible way; like a lotus unsoiled in the water they do pleasant and gracious things, they are poets and kings of poets, fighters and wrestlers, entertainers, shadow players, cleaners(?) , dancers, magicians showing these various shapes ..) The *śobhikas* too are mentioned in a longer list of entertainers in the Mahāvastu 3, 113. In Jātaka VI. 227 the shadow players (*sobhiya*) are listed together with acrobats (*laṃghika*), wrestlers (*muṭṭhika*), magicians (*māyākāra*) and exorcists (*vetālika*). In the Arthaśāstra, *śaubhikas*, actors, dancers, musicians and other entertainers are said to be used as spies (Book VII, chapter 17, 123-124). Shadow players were used as spies in Ceylon also. In the 12th century Ceylonese chronicle Cūlavaṃsa 66. 133 we hear of king Gajabahu II (1137-1153), who employed Tamilians and other people who knew how to dance and sing and who performed with leather puppets and (acted) other plays. (*dāmiḷadisu nekesu naccagītesu kovide| kāresi cammarūpādikiḷādassakasamnibhe||*).

Also Dhānapāla, a Sanskrit poet, who lived at Dhārā in the early 11th century refers to leather shadow puppets as the art of cut-out figures in his prose romance Tilakamañjarī. In Dravidian literature too, shadow plays are mentioned. The poet Arul Nandi Sivachariar (13th century) compares a human being to a manipulated puppet: "The inner force of man kindles him to do many things, just as a dancing leather puppet or a wooden marionette are controlled by the man who holds the strings." (Sharada Devi, Leather Shadow Puppets, Illustrated Weekly, 2.2.1969).

This simile also occurs in the Bhāgavatapurāṇa and must have been easily understood by everybody at that time. This is confirmed by the Telugu poet Palkurika Somanātha, who says in his Bāsava Purāṇa and Paṇḍitarādhya Charitra that both leather puppet and wooden puppet performances were popular in the Andhra country in his time, that is the 12th century. (M. V. RAMANAMURTHY, "The Art and Tradition of Leather Puppet Show in India," Bulletin of the Institute of Traditional Culture, University of Madras, December 1965).

Coming back to H. LÜDERS' paper on the Śaubhikas, we find that he also discusses '*aindrajālikas*'. In his opinion, '*śaubhika*' is a specific term for a shadow player, while '*aindrajālika*' is a general term. An '*aindrajālika*' is a synonym of '*śaubhika*' in the dictionary Hārāvalī by Puruśottamadeva. A performance of an '*aindrajālika*' is described in Harśa's Ratnāvali, act IV, and H. LÜDERS assumes that the gods and semi-divine beings which appear in this play are shadow projections. It seems, however, that '*aindrajālika*' has a very wide scope of meaning. '*Aindrajālikas*' are referred to in Vidyāraṇya's Pañcadaśi. Vidyāraṇya was a sage of the Śringeri Maṭha in the 14th century, who used the term '*aindrajālika*' in order to explain the concept of Māyā, in which he, as an advaitin, was mainly interested. One example is the following stanza (VII, 177): *vidyāprārabdhe viruddhyate na bhinnaviṣayatvatam| jānadbhir apy aindrajālavinodo dṛśyate khalu||* (Because of the difference of their spheres, knowledge and causation are not at variance. Is not a performance of an '*aindrajālika*' also witnessed by those who know?). Other passages, in which an '*aindrajālika*' occurs are in VI. 141; 146; VII. 167; 171; 174; 180; IX. 104; XII. 10; 37. Vidyāraṇya seems to include all kinds of illusionists in the term '*aindrajālika*', including magicians. In one instance in VI. 147, '*indrajāla*' has an even wider meaning, i.e. it is the power which makes the semen develop into a human being. According to the dictionary Śabdakalpadruma '*aindrajālikas*' are people who perform black magic. A performance by descendants of '*aindrajālikas*' at the Vijayanagara court was seen by Mr. Nanjunda Rao of the Mysore Chitrakāla Parishat, Bangalore and from his description it appears that they performed magic tricks. According to information received from Mrs. Botsford Helstien of the Department of Theatre Art, University of California, Los Angeles, nomadic puppeteers from the Jodhpur area not only perform with their marionettes, but do acrobatic tricks as well. We may therefore assume that if the '*aindrajālikas*' were shadow players, they did several other things as well.

P. THIEME also discusses the shadow play and its influence on classical drama in his article "Das Indische Theater" (The Indian Theatre in H. Kindermann's Fernöstliches Theater, Stuttgart 1966). According to him, classical drama was preceded by ritualistic dance dramas, secular plays performed by mimes and shadow plays. Several characteristics of the drama, as for instance the fact that members of one family speak different languages become understandable if traced to shadow play performances. One performer has to speak for all his leather puppets, and if different languages are assigned to them, it becomes immediately clear, which one is supposed to be talking. P. THIEME finds other evidence for the shadow play in the two kinds of introduction, *pūrvaraṅga* and *prastāvanā* or *sthāpaka* referred to in the Nāṭyaśāstra. The latter, according to him, can only have been the introduction to shadow plays. Several literary shadow plays, *chāyānāṭakas*, were published by G. JAKOB (Das Orientalische Schattentheater, Stuttgart 1931). A characteristic feature of these plays, he says, is the fact that they show scenes which would be difficult to show in a drama: a large number of monkeys and demons with several arms and heads appear, as well as demons and gods on their marvellous mounts. The oldest shadow play is the Mahānāṭaka, said to have been composed by Hanuman. Subhāṭa's Dhūtāṅgada originated in the 13th century. Rāmābhudaya, beginning with Sītā's fire ordeal and ending with Rāma's coronation was written about 200 years later by Vyāsa Rāmadeva. Rāmadeva is the author of two other shadow plays, Subhadrāpariṇayana and Pāṇḍavābhyudaya, the themes of which are taken from the epics. Dharmābhyudaya by Meghaprabhācārya extols the Jain ideal of renouncing the world. As a unique shadow play G. JAKOB mentions a manuscript in the library of the Mahārāja of Bikaner, on the history of the Adil Shahi dynasty of Bījapur. However, G. JAKOB only knew of the existence of this manuscript from Rajendralal Mitra's catalogue and it seems that so far nothing more is known about it. Such historical subjects were not confined to the literary shadow plays. The Madras District Gazetteer of Anantapur (Madras 1905) mentions strolling players, Killekyatas by caste, whose favourite play, besides scenes from the Rāmāyana, and Mahābhārata, was the story of Desing, rājā of Gingee. This Desing is mentioned in the Madras Gazetteer of South Arcot (Madras 1906), where it says: "Desing=Tej Singh, son of a local governor, a Rajput from the North, declined to acknowledge the authority of the Nawab of Arcot or to pay him any tribute. Sadat Ullah Khan, who had been made Nawab in 1713 accordingly marched against him in the same year to bring him to his senses. The story of the fight which occured is a great favourite with the ballad-mongers of the district .." A similar historical event, the resistance of the Kittur rulers against the British in 1829, was incorporated in a Rāmāyaṇa shadow play in North Karnataka. A shadow figure of that district in the possession of the Mysore Chitrakāla Parishat, Bangalore, shows Hanuman's soldiers using a canon. (The author is indebted to Mr. M. S. Nanjunda Rao, Principal of this institution for much valuable information concerning shadow figures).

In the same year that O. Spies saw a shadow play in Mysore, Stan Harding happened to see a show in Kerala. Since then further material and documentation has appeared, among which discussions on the Indian tradition of puppetry and recent attempts at rehabilitation of the shadow play by several authors in Marg, Vol. XXI, no. 3 (Indian Puppets) 1964 deserve to be specially mentioned. The same subject has been taken up by J. Tilakasiri in "The Puppet Theatre of Asia", Colombo 1970. A very thorough research on Indian shadow play has been published by F. Seltmann in two papers "Schattenspiel in Mysore und Andhra Pradeś" and "Schattenspiel in Kerala" (Bijdragen Taal-, Land- en Volkenkunden 127, 1971 und 128, 1972). Basing the former article on Census Reports and field study, F. Seltmann discusses the social status of the shadow players, the Killekyatars, the way the figures are made, as well as a performance and the preparations preceding it. In his paper on the Kerala figures F. Seltmann describes the Kerala puppets, which are made of thick, non-transparent leather, whose effect on the screen is derived from the outline and the perforations. Seltmann also draws attention to the Kuṭṭu-mādams, shadow play temples, which are found near Bhagavatī shrines and the relationship of the shadow play performance to the cult of the goddess.

Much too little is known about the art of the shadow play. Unfortunately, it has been widely affected by the cinema and other factors and today one may say that the shadow play, which apparently in earlier times

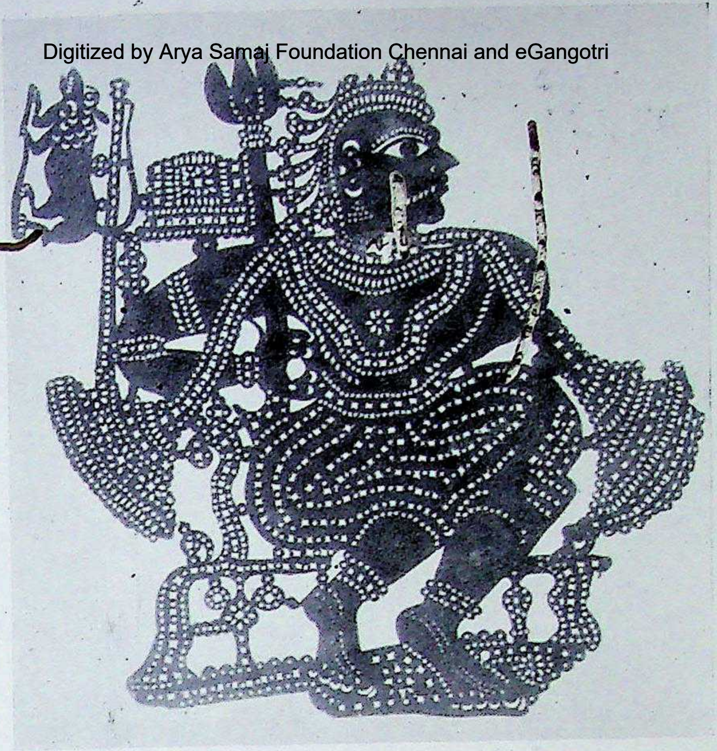

Fig. 1 Mandodari, Kerala shadow puppet, 58 × 58 cm (courtesy Government Museum, Madras).

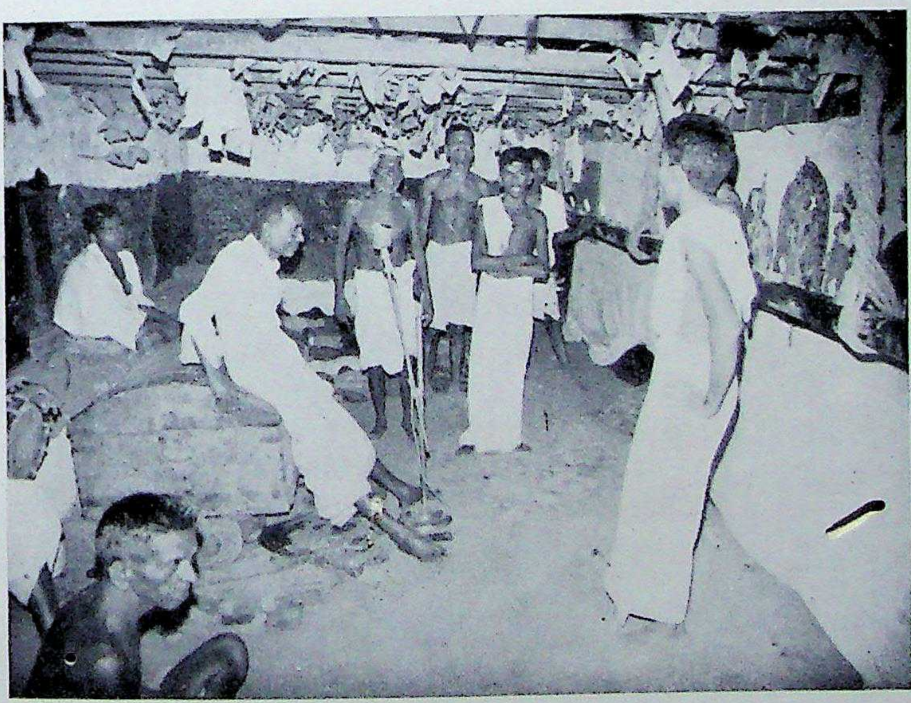

Fig. 2 Kerala shadow play performance on the stage of the Aryankavu temple, Vallapuram, Shoranur Taluk. Coconut shells filled with oil are attached to a beam which runs across the length of the screen. The lower part of the screen, below the beam, is covered on the outside with black cloth.

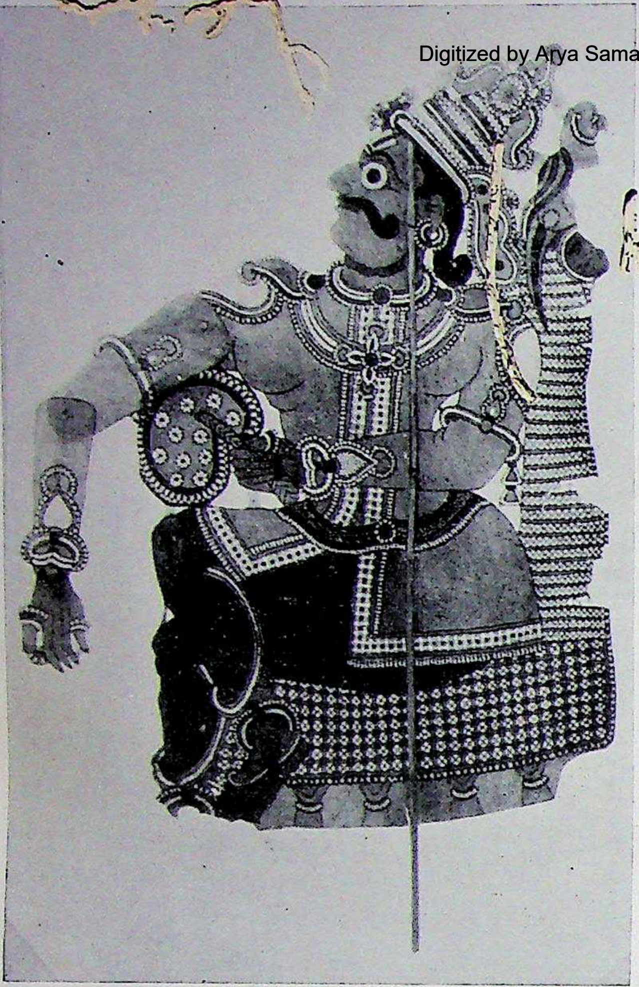

Fig. 3 King, Madanapalli type puppet, 90 cm. The king is seated on a wicker chair. He holds a fan in his left hand, the right arm is movable.

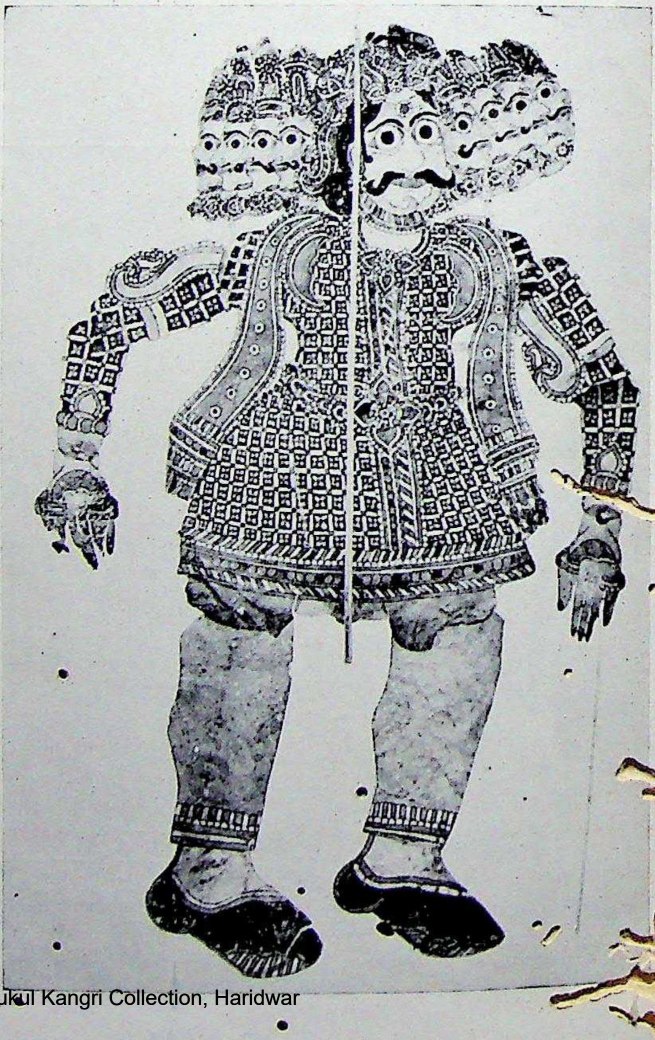

Fig. 4 Rāvaṇa, Madanapalli type puppet, 150 cm. Joints in elbow and hands, as well as legs make the limbs movable. (Photo B. Kesar Singh, courtesy Mysore Chitrakala Parishat).

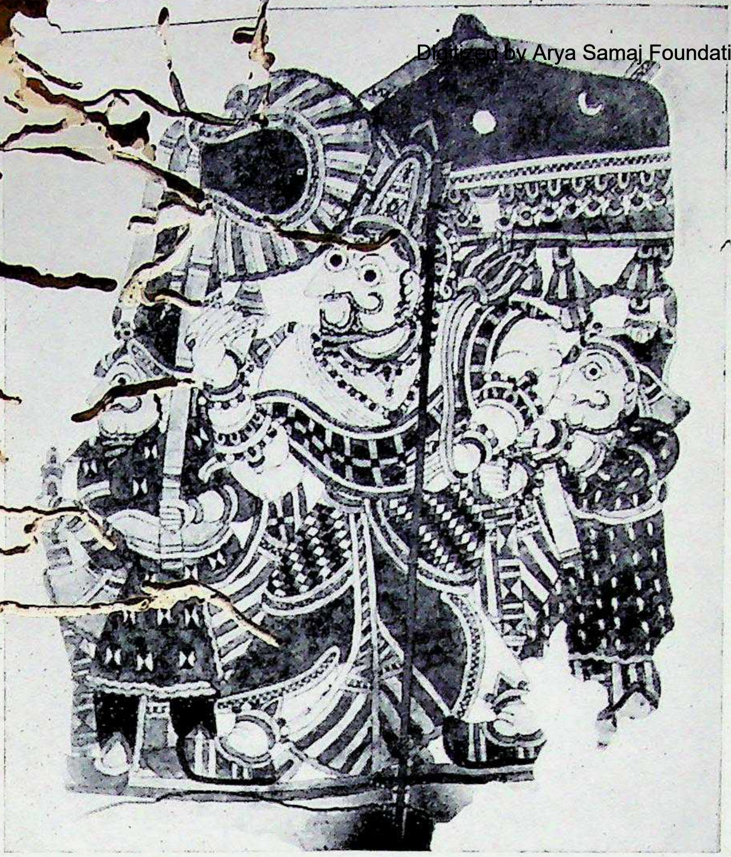

Fig. 5 King with attendants, puppet from Northern Karnataka, 62×48 cm. A figure of this type may be used for Yudhiṣṭhira, Daśaratha, or any other king.

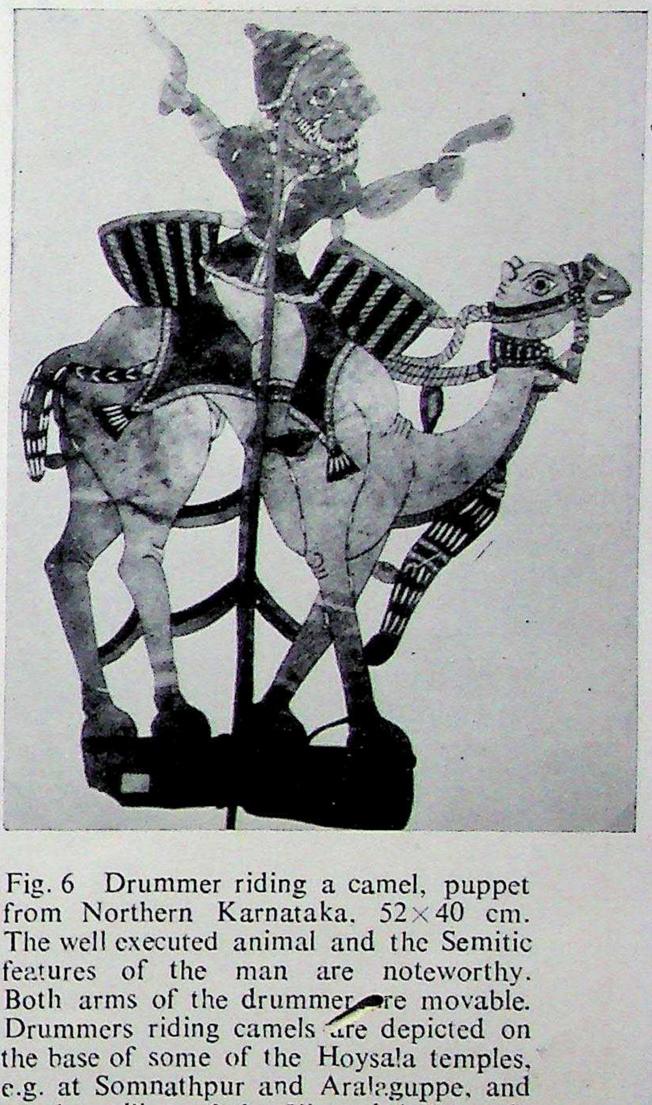

Fig. 6 Drummer riding a camel, puppet from Northern Karnataka, 52×40 cm. The well executed animal and the Semitic features of the man are noteworthy. Both arms of the drummer are movable. Drummers riding camels are depicted on the base of some of the Hoysala temples, e.g. at Somnathpur and Aralaguppe, and on the ceiling of the Virupaksha temple at Hampi.

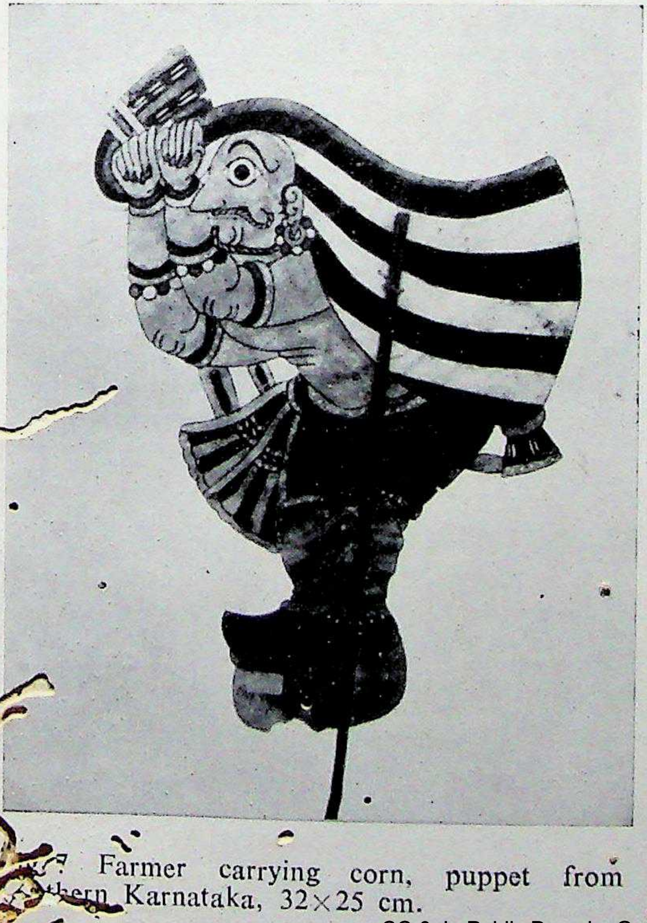

Fig. 7 Farmer carrying corn, puppet from Northern Karnataka, 32×25 cm.

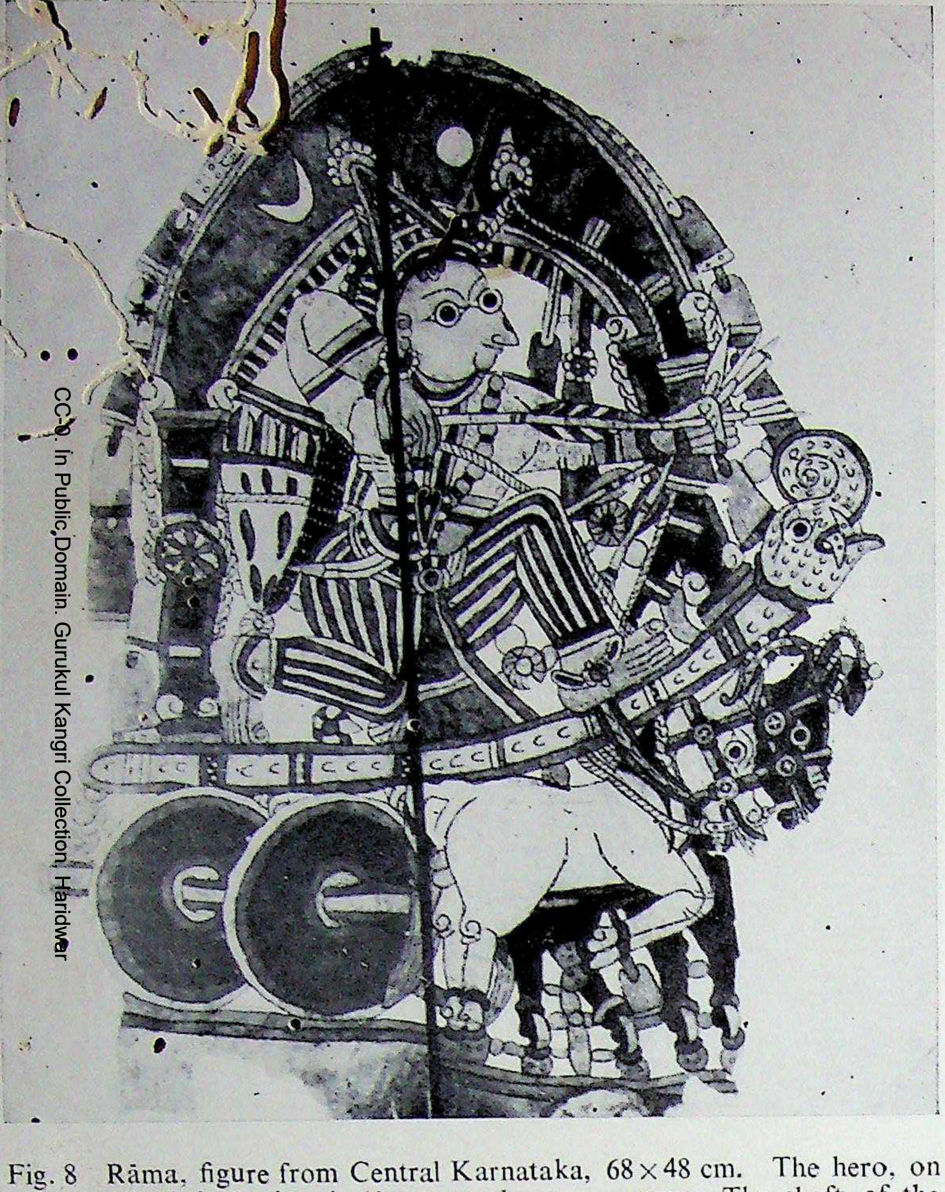

Fig. 8 Rāma, figure from Central Karnataka, 68×48 cm. The hero, on a two wheeled chariot, is about to shoot an arrow. The shaft of the [illegible] ends in a monster's head. The horses are comparatively small.

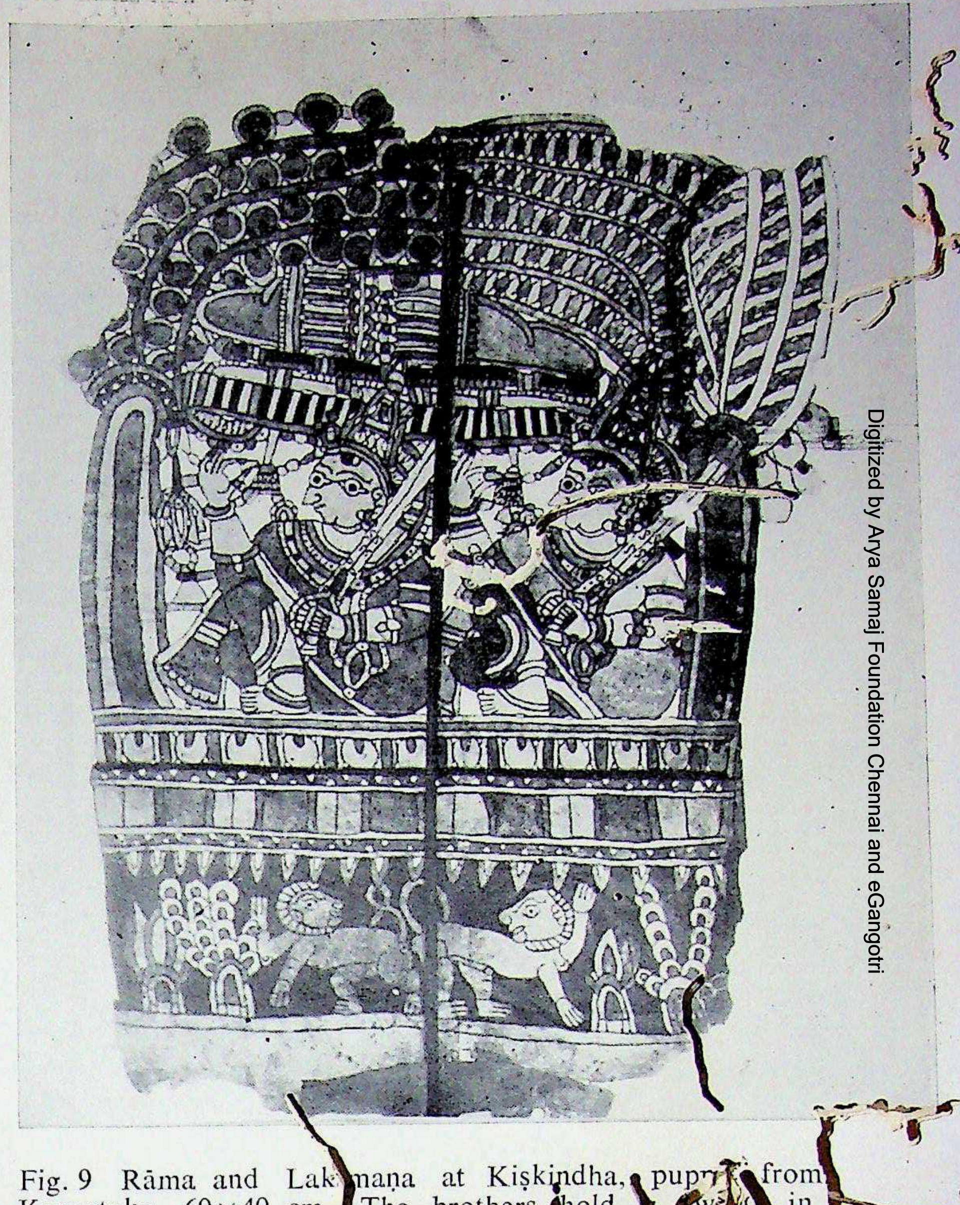

Fig. 9 Rāma and Lakṣmaṇa at Kiṣkindha, pupp[illegible] from Karnataka, 60×40 cm. The brothers hold [illegible] in hand, a fruit in their right hand. Their arrows are kep[illegible]. Below this composition are two playful monkeys among [illegible]

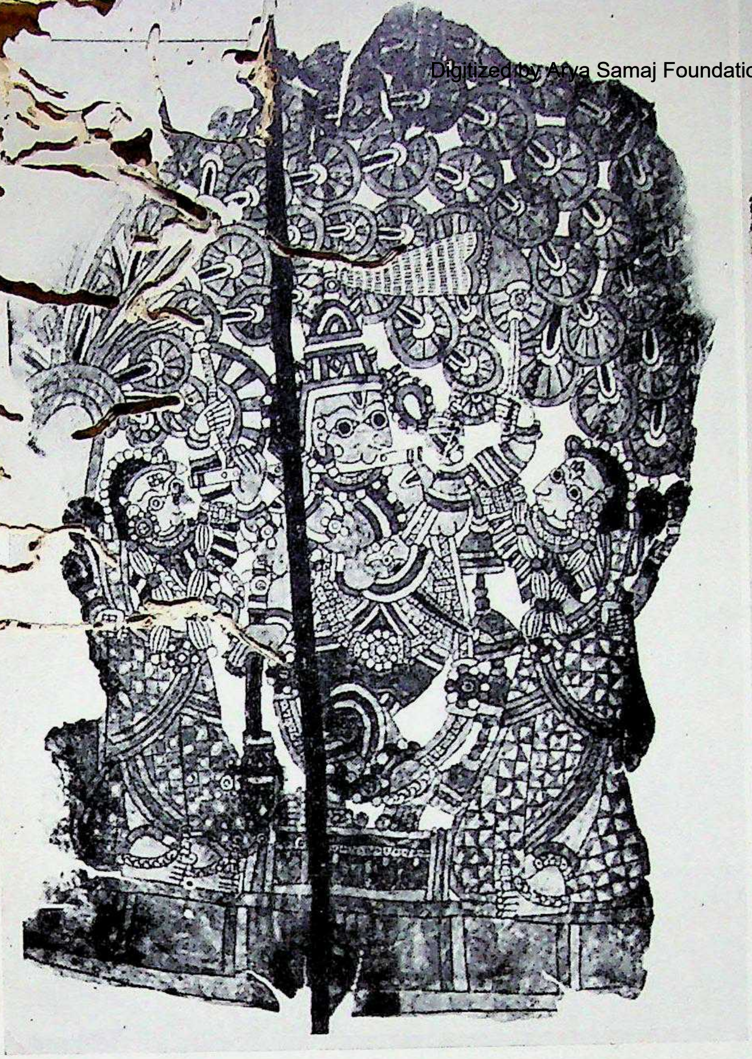

Fig. 10 Kṛṣṇa and Gopis, puppet from Southern Karnataka, 60×44 cm. The four armed Kṛṣṇa is playing the flute with two hands, the other two are holding a conch and a mace. The Gopis attend on him with fan and fly whisk.

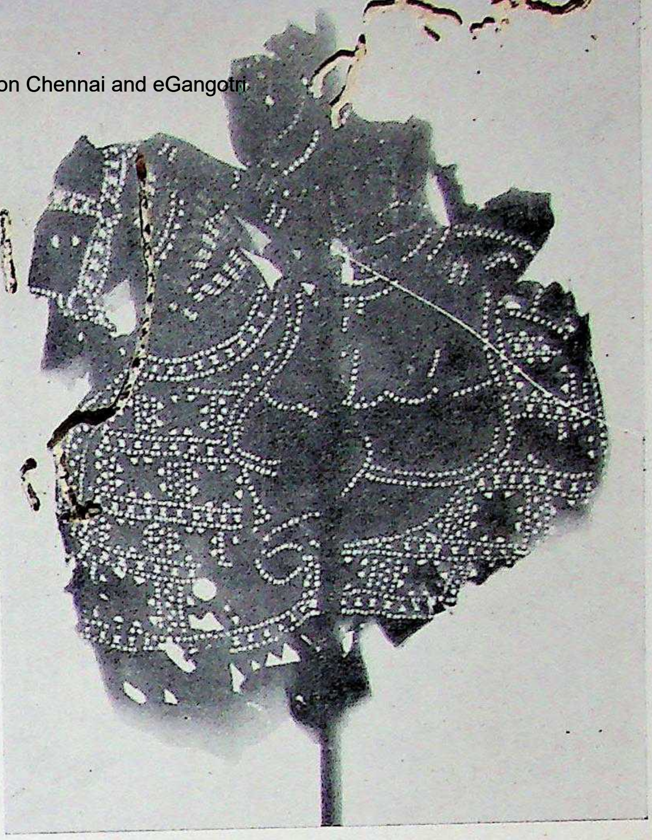

Fig. 12 Horse and rider; leather puppet from Gudi Wadi, Pinguli, Ratnagiri district, Maharashtra.

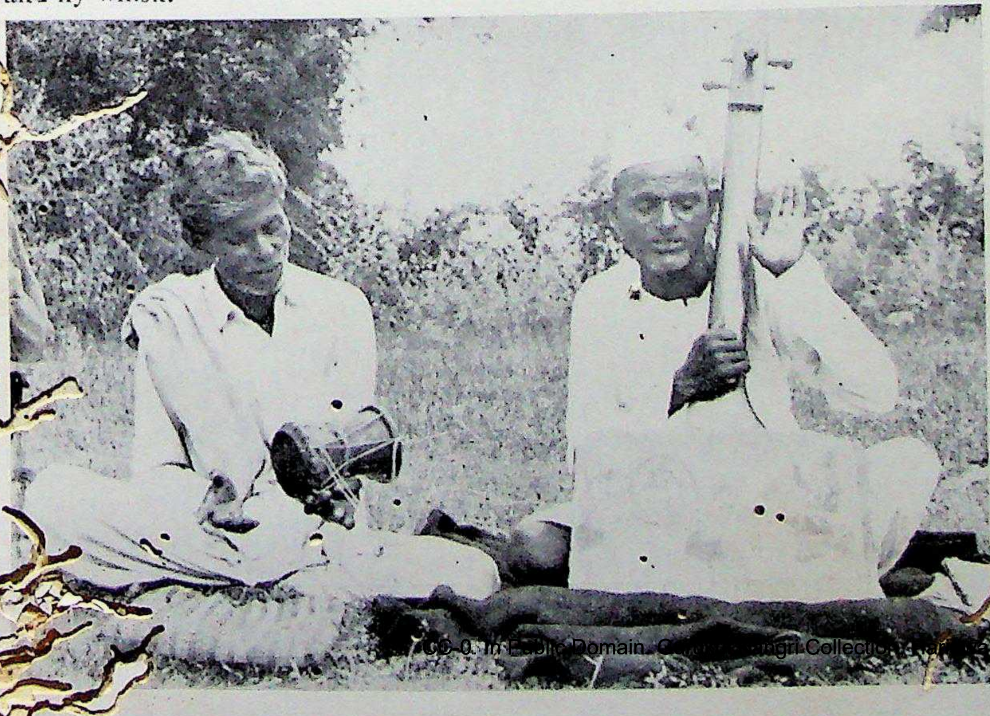

Fig. 11 Two picture showmen from Gudi Wadi, Pinguli, Ratnagiri district, Maharashtra. One of the performers puts a wooden board the size of the pictures against his knees to give support to the pictures. The black cloth in the foreground prevents the pages from slipping.

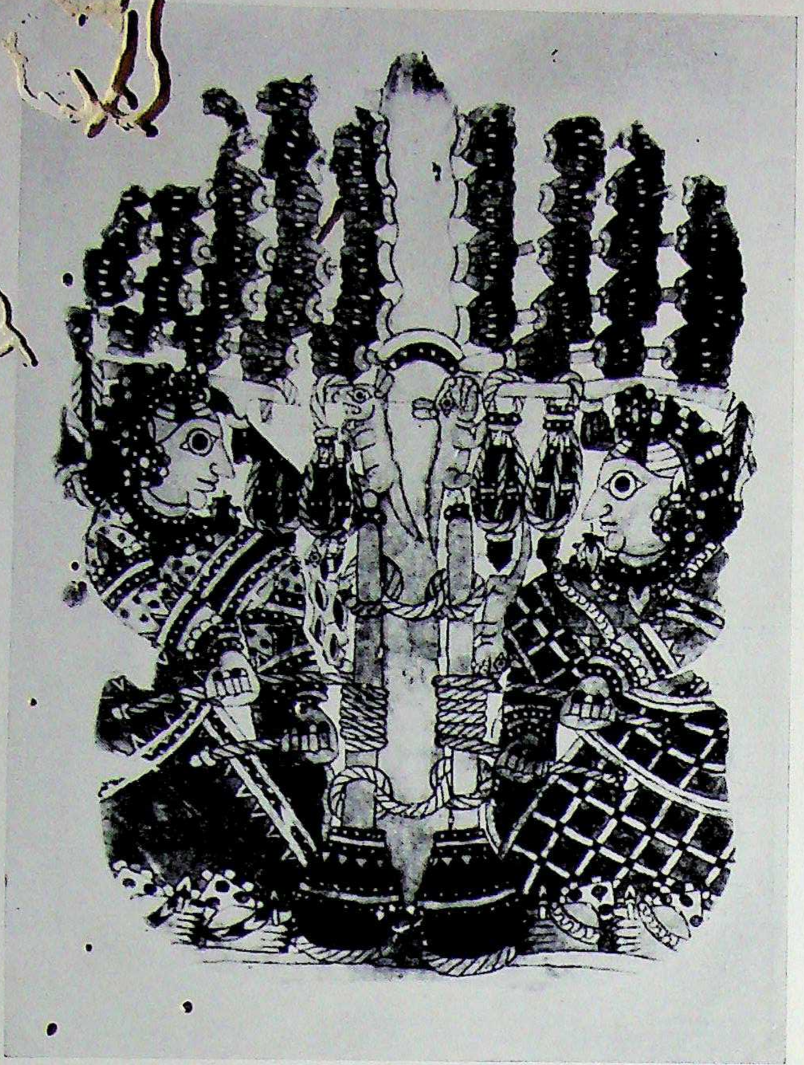

Fig. 13 Women churning butter, puppet from Southern Karnataka, 65×45 cm.

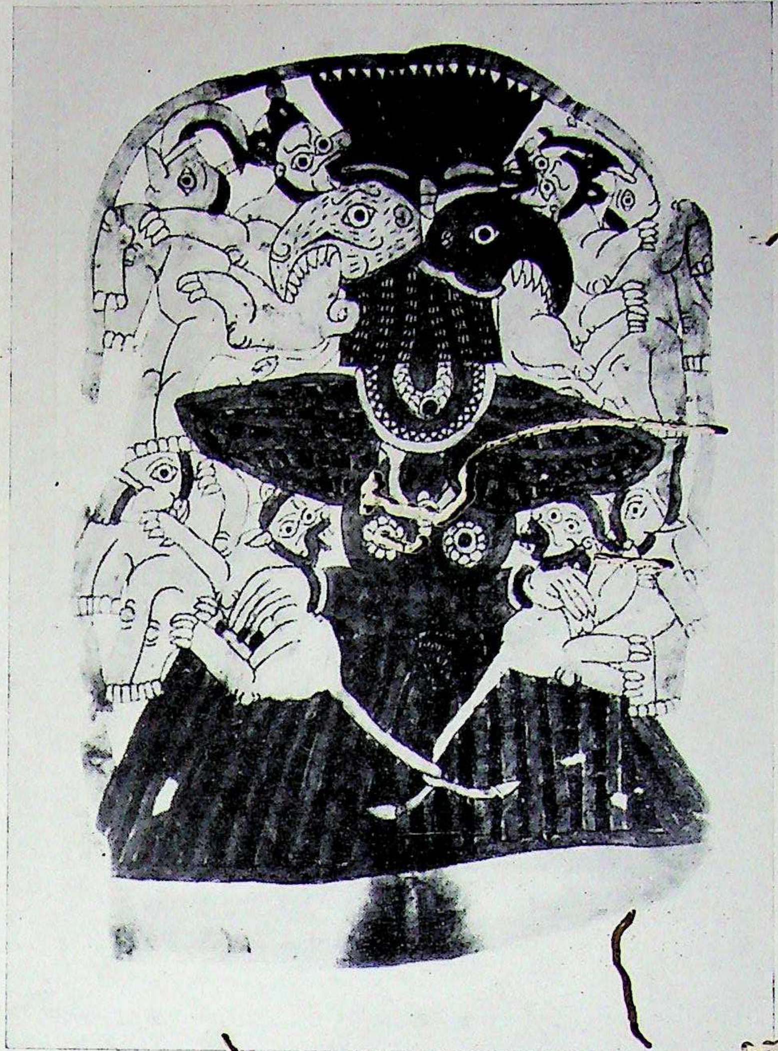

Fig. 14 Gaṇḍabheruṇḍa, puppet from Karnataka, 66× cm. The Gaṇḍabheruṇḍa is carrying lions in his beaks and talons, and the lions attack elephants.

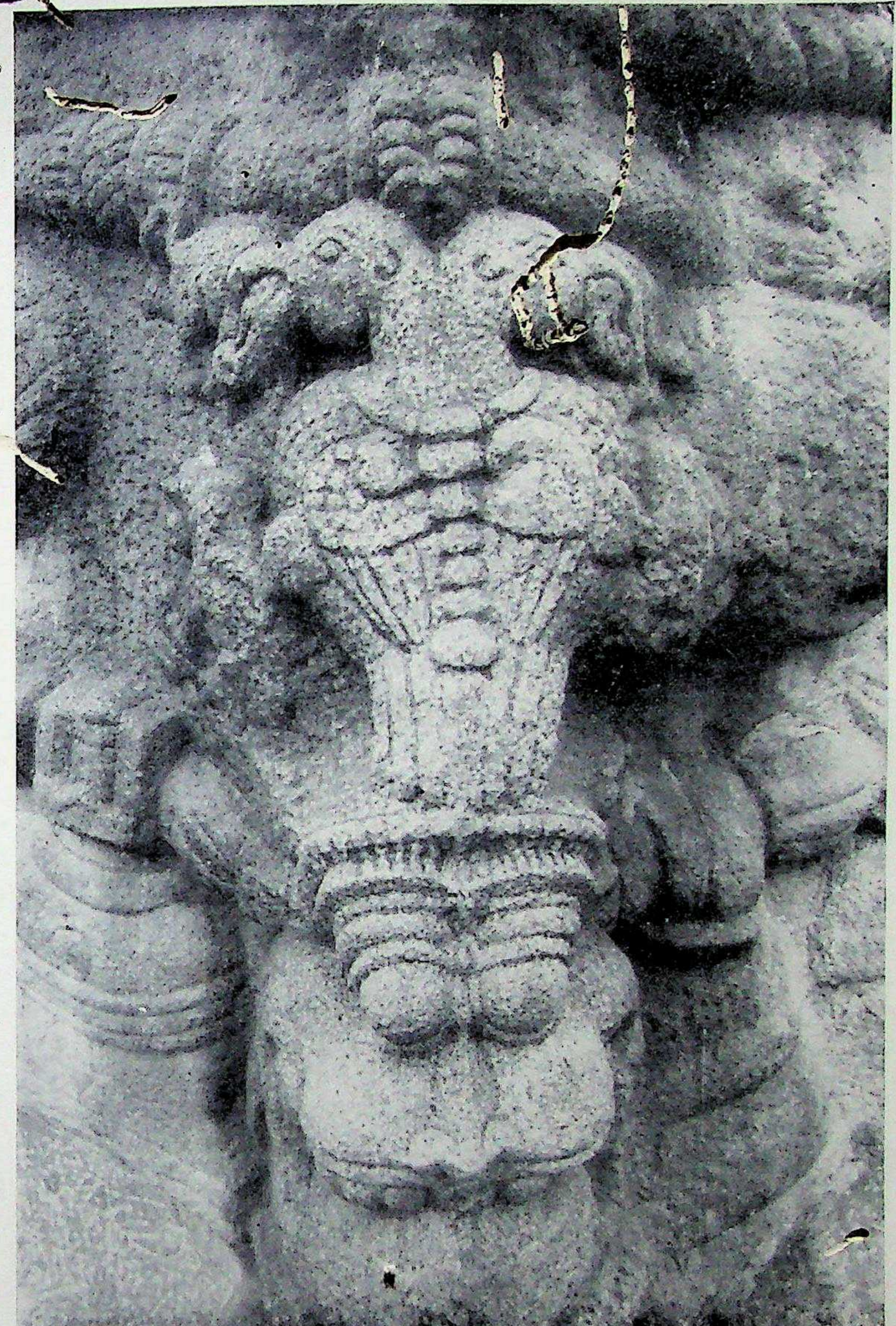

Fig. 15 Gaṇḍabheruṇḍa medallion from the big bull, Lepakshi, about 1538 A.D.

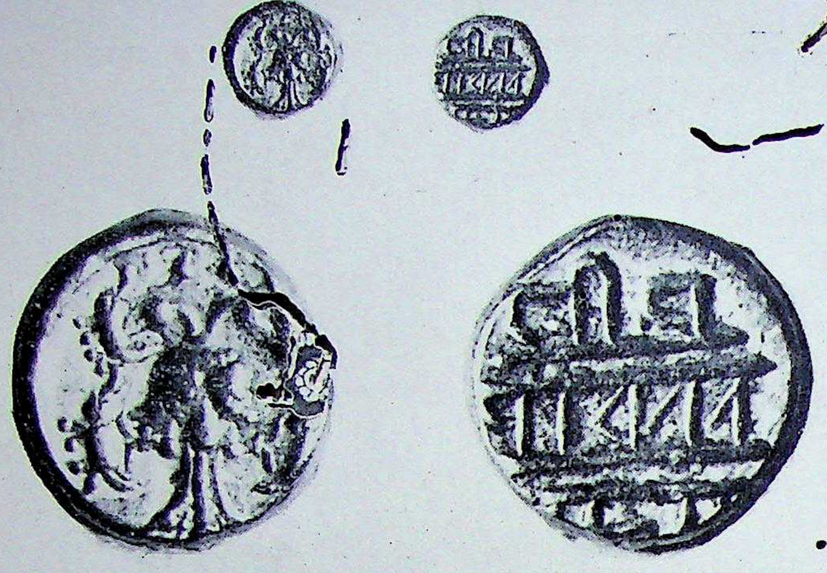

Fig. 16 Gold coin (pagoda) of Achyuta Rāya (reigned from 1530-42). The obverse of the coin shows a Gaṇḍabheruṇḍa carrying elephants. Original size and enlarged, (courtesy Hyderabad Museum).

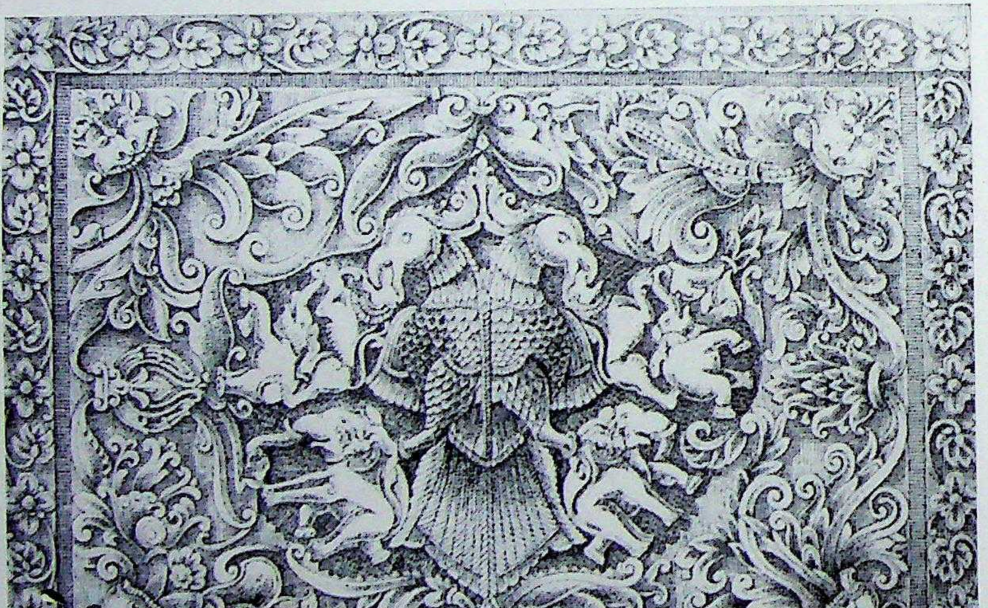

Fig. 17 Gaṇḍabheruṇḍa ceiling, Virabhadra temple, Keladi (Plate 1 in Epigraphia Carnatica, vol. VIII, pt. 2, 1904). This temple was built between 1530 and 1540. The double headed eagle holds a tusker elephant in each of its two talons, while each of its two beaks holds by the snout a lion, which in its turn is trampling on a trumpeting elephant.

was a wide-spread folk art, has retreated to remote, out of the way areas, and is based on family traditions of old performers. In Kerala, shadow puppetry is confined to the Palghat district. In Tamilnadu, where the Nayaks of Tanjore are said to have patronised this art, the traditions have been revived by Mr. Ramanamurthy of the Central Leather Research Institute, who is himself a traditional puppeteer attempting to combine old and new elements in his performances.

In Andhra, several traditional groups still [illegible] 1) Sri Balappa and his son, Hanumanta Rao, Avulena village, Kalyandrug taluk, Anantapur district; 2) Sri B. Anjanaiah, Chakarapalli, Penugonda taluk, Anantapur district; 3) Sri Anaparty Krishnamurthy, Madhavapatnam, Sarvaparam taluk, E. G. district; 4) Sri Kumara Raja Rao, Dharmarao Cheruvapalli, Atmakur taluk, Nellore district; 5) Sri N. Suryanarayana, Nandigram via Terlam, Srikakulam district and 6) Sri Nandi Surya Narayana, Reddipalli P.O. via Vizianagaram.

In Karnataka the following groups may be mentioned: 1) Sri Munisvamy Rao, Jadigena Halli, Muguvala Post, Hoskote taluk, Bangalore district, 2) Sri Hombaiah and his sons, Tyapenhalli, Nagamangala taluk, Mandya district and 3) Sri Marati Ramaiah, Kikkeri, Krishnarajpet taluk, Mandya district. There may be more puppeteers in these states, for information on the shadow play is still scarce and not easily available.

In different areas the leather puppets are prepared from different kinds of leather according to tradition and show an astonishing variety of shapes. The Kerala puppets are made of non-transparent leather (Fig. 1*). These figures are either non-articulated or have one movable arm only. In Andhra Pradesh, three districts may be distinguished. The Madanapalli puppets (Fig. 3, 4) are approximately 130 cm high. They are shown in profile and generally have one movable arm only. The figures are mostly single, very rarely two persons are shown in one piece. The Nellore puppets' characteristic feature is their broad *aṅgavastra*, the shawl they wear round their shoulders. They have movable limbs and are 120 to 180 cm high. The men wear dhotis and turbans, some figures are shown in profile, others in front view. The Kakinada puppets of North Andhra have no *aṅgavastras*. They are 150 cm tall and have movable limbs. About fifty years ago, green and yellow have been introduced.

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* Not depicting MANDODARI as stated but MAHODARA.

In Karnataka too, we find that puppets vary from district to district. In the north (Gulbarga, Raichur, Bijapur and Bidar) the recent figures show Muslim influence and even divine figures are shown with a beard. The faces are triangular and the figures slim, about 90 cm in height. Besides single figures there are group compositions (Fig. 5). Animal figures — bears, tigers, lions, deer, horses, elephants etc. have powerful drawings and are a speciality of this group (Fig. 6). In Central Karnataka (Dharwar, Bellary, Chitradurga and parts of Shimoga district) figures from 16 cm to 60 cm are found; compositions are generally 50 cm high (Fig. 8, 9). In Channagiri, Shimoga district, the compositions have very few perforations or none at all. The area of the background is made up with drawings. In Southern Karnataka (Mandya, Bangalore, Tumkur, Hassan and parts of Kolar) the figures are from 50 to 75 cm high (Fig. 13). The men wear no upper garments, only many ornaments instead. The figures are fat and the faces roundish, shown in profile. Both single and multiple-figure compositions are found. The designs are intricate.

The compositions referred to above are either scenes from the epics or from everyday life. Yudhiṣṭhira and Śakuni are shown playing dice, or Sītā and Trijāta in the Aśokavana, guarded by a rakṣasa, while Hanuman, hidden in a tree, waits for an opportunity to hand over Rāma's ring to Sītā. Other compositions depict farmers threshing corn, a smith in his workshop or women churning butter (Fig. 7, 13). These were once used in between the acts, when a performance of the Rāmāyāṇa went on for several nights or even weeks. This gave the performers an opportunity to comment on the local events of the village. The Killekyata and his companion, as well as his wife Bangarakkā, all of them comic figures, served the same purpose.

Most puppeteers follow the Ranganātha Rāmayāṇa in Telugu. In Mandya district a Kannada version of Chikkadevarāya Wodeyar is being used. The art of puppetry is learnt in the tradition of *guru* and *siṣya* within certain families.

A fourth group of shadow puppets hails from Orissa. According to Marg ("Indian puppets"), the puppeteers have migrated to remote villages in the Dhenkenal district, and only one family group of such shadow players exists. The Orissa leather puppets are very simple in form, they are not coloured and only give black or creamish transparent shadows.

In a village in South-East Maharashtra, the author has seen a few leather puppets, which do not seem to belong to any of the groups described above.

This village, Pinguli, belongs to the former state of Savantwadi. The village consists of twelve Wadis. One of these, Gudi Wadi, is inhabited by about seventy families, all of which are Hindu Mahratta Thakurs. They claim that their ancestors came to Maharashtra from Rajasthan about 500 years ago. This was confirmed by H. H. the former Maharaja of Savantwadi, who said his ancestors brought some entertainers with them when they settled in that area. The inhabitants of Gudi Wadi are mostly cultivators or fishermen, and all of them are engaged in one or the other form of religious folk-entertainment. Some train bullocks to learn tricks and make them perform at village fairs, they also sing ballads. Others have wooden puppets resembling the Katputli marionettes of Rajasthan. A third group is in possession of "pothis", pictures painted on brown paper, approximately 30 x 45 cm, illustrating stories from the epics (Fig. 11). (Cf. "Schattenspiele und Bildervorführungen", Zeitschrift der Deutschen Morgenländischen Gesellschaft, 1975. In his article "Picture Showmen" [Indian Historical Quarterly V, 1929] A. K. Coomaraswamy cites a number of classical accounts in which picture showmen are mentioned). One man had a set of leather puppets, none of which, however, was undamaged (Fig. 12). The figures were approximately 30 cm high. They were made of leather which was not as thick as that of the Kerala puppets, though not as transparent as the Karnataka puppets. Faint traces of colour were noticable, but the puppets' effect on the screen was produced by their perforations. Four bamboo poles were set up for the performance, supported by a number of thinner bamboo sticks fixed between them, thus forming an upright cubicle 1 × 1 × 2 m. All parts were covered by coarse black cloth, except the upper front portion which was the screen of thin white material. The shadows were cast onto the screen by means of one small oil lamp. One performer squatted inside the cubicle, occasionally blowing a conch shell while manipulating the puppets. Other musical instruments used for accompaniment are tabla, tambura and tuntunia.

A further search for shadow puppets in other parts of India might bring to light other groups. The author intends to make a more detailed study of the picture showmen and the puppeteers of Pinguli at a future date.

At present there is no historical evidence available about the age of the leather puppets used nowadays. From stylistic features, clothes, weapons, and jewellery one may assume, however, that the prototypes of the present day shadow figures originated in the Vijayanagar period. A good deal of research is still necessary in this field. A hint in this direction is given in the catalogue of shadow puppets in the Hamburg Völkerkunde Museum (Schattentheater, Hamburg 1973), which assumes that the Andhra figures resemble the mural paintings in the Virabhadra temple at Lepakshi which was completed in 1538. The catalogue of the Madras Museum (Puppets in the collection of the Madras Museum 1973) goes a step further and states: "Not only the forms, but also the colour scheme adopted is copied or derived from these paintings." One may agree that there is a certain resemblance, but a striking difference is that the predominating colours of the shadow puppets are blue and red, whereas more sombre colours prevail in the ceiling of the Lepakshi temple. It might very well be that the apparent resemblances derive from common stylistic features of the Vijayanagar period. Attention may be drawn in this context to stylistic affinities which the shadow puppets have with some folk paintings of South India, i.e., the Paithan paintings in the Raja Kelkar Museum in Poona or the Trichinopoly paintings in the Victoria and Albert Museum, London. Here even the colour scheme is comparable to that of the shadow figures. Further, some of the Karnataka puppets and the Paithan paintings depict trees in a similar way by round, coloured discs strung on the branches like balloons. The Paithan paintings originated with a group of itinerant story tellers, the Chitrakathis, who used these pictures in day time to illustrate their recitals of epic stories in a similar way as the puppeteers used their leather puppets at night. In favour of this relationship is the fact that the puppeteers are said to have come from the Marathi speaking area to which the Chitrakathis also belong.

A further hint about the origin of the present leather puppet sets in the Vijayanagar period — which must have been copied again and again — can be taken from one special item, which appears in all the areas. This is the shadow puppet of the Gaṇḍabheruṇḍa, a figure shown like an eagle with two heads, holding lions and elephants in his beaks and talons (Fig. 14). Taking into consideration the fact that the Gaṇḍabheruṇḍa in this form was the emblem of the Vijayanagar kings, especially of Achyuta Rāya (1530-42), and that the territory of the Vijayanagar empire roughly coincides with the area in which the shadow play is found today, one may assume that the figure of the Gaṇḍabheruṇḍa was introduced into the plays at that period. The function of a Gaṇḍabheruṇḍa in a performance was to represent the Rāghu family in the Bālakhanda of the Rāmāyaṇa. The Vijayanagar kings styled themselves, as the Chalûkyas and the Hoysalas did before them, as Gaṇḍabheruṇḍa. Achyuta Rāya is referred to in a copper plate inscription of A.D. 1535 in the Mysore Museum as — *duṣṭha śardūla mardana gajaugha gaṇḍabheruṇḍa* . . . (destroyer of the tiger, the evil, a Gaṇḍabheruṇḍa to the flood of elephants . .) Achyuta Rāya minted coins with the Gaṇḍabheruṇḍa shown as a bird carrying elephants and lions (Fig. 16). A similar creature is found on a medallion worn by the big bull outside the Virabhadra temple at Lepakshi (Fig. 15), and also in the ceiling of the Virabhadra temple at Keladi, five miles to the north of Sagar in Shimoga district (Fig. 17). The latter temple was built by Bhadrappa Nayak between 1530 and 1540. (Mysore Archaeological Department Report, 1932, p. 42 ff.).

If this evidence is not convincing in itself, then why has this rather strange figure of the Gaṇḍabheruṇḍa been taken up by the puppeteers of old as an emblem of Rāma's royal ancestors?

Although shadow puppetry is an ancient tradition in India, the study of this art is still in its infancy. Much work has still to be done in this field, and it should be done quickly, while there are still puppeteers trained in the traditional way. The relation between the literary shadow plays, the Chāyānāṭakas and the texts of the shadow players which were handed down orally should be studied. The costumes, ornaments and weapons of the puppets require further attention by researchers. (The footwear of some of the figures, partly known from European paintings of the 15th century, may be specially mentioned.)

Another problem that awaits solution is the religious background of puppetry and the characteristics of folk religion as apparent in the plays. This question would be worth the endeavours of an expert ethnologist, as it is stated that the puppets have magic powers to heal people possessed of evil spirits, and plays are said to have been performed during periods of drought in order to produce rain or to fight epidemics.

One particular problem is the connection that may have existed between the shadow plays of India and other Asian countries: Ceylon, Burma, Thailand, Cambodia, Malaysia and Indonesia. It is well known that the stories of the shadow plays in these countries were taken over from India. How far the art itself was taken over from India, and if so, from which part of India, is a question yet to be answered.

TRADITIONAL PATTERNS OF SOCIAL SECURITY IN HINDUISM

BY

HEINRICH VON STIETENCRON (Tübingen)

While the shaping of India's political, social and economic future should be left entirely to the Indians themselves, it may be permitted to a Western Indologist to make a few remarks on the traditional patterns on which Hindu social structure has been based in the past.

These remarks are addressed to those in the West — or in the communist East for that matter — who feel some sympathetic concern about India's future development, but who fail to see why India should not simply follow the example of the West or East and completely remodel her society accordingly. Even among the Western-orientated intellectual elite of India there has been, in recent years, a rising tendency to regard the basic tenets of Hinduism as little suited to support and govern a human society.

The benevolent critic's apprehensions

In this respect it is sometimes pointed out that the modern technical and economic development is often hampered by the orthodox adherents to Hindu traditions. More serious is the accusation that in the Hindu caste system the poor and dejected classes are forced to submit to their miserable lot by a network of fears and superstitions connected with a future life. And still more to the point is the question whether the basic tenets of Hinduism are at all compatible with the very existence of a functioning society?

This last question contains a serious challenge to Hinduism. The more so, because it is asked not only by Europeans but also by Indians. These critics realize that there are some fundamental principles at the base of Western society, which enable it to function in the way it does. In Hinduism, they fail to perceive these fundamentals. They rather feel that the basic concepts of Hinduism are radically negating society as such.

The nature of the apprehensions arising under this impression is probably shown best by contrasting some teachings of the West with those of Hinduism. Out of several fundamental beliefs which support society in the West, I choose three which are partly or fully opposed to Hindu thought. They are:

1. *The belief that man is living only once, that this one life is his only chance for self-fulfilment or for gaining the grace of God.* Consequently life is a unique and precious possession which must be guarded, protected and rendered enjoyable. Therefore the first task of society in the West, and one of its very reasons of existence, is to protect the life of its members, and to protect all values and accessories which make life worth living and enjoyable, such as health, property, cultural values, etc.
2. *All human beings are equal before God. They should be equal before the law and have equal chances in life.* This demand, though never fully put in practice as yet, is a strong motivating power towards the implementation of social justice. It is in conflict with the demand for protection of property. For by protection of property, society creates unequal distribution of wealth and chances. And there also exists inequality by fate.
3. *Inequality is to be overcome by love and compassion.* Responsibility for the welfare of others, therefore, is strongly emphasized and supported by the reservoir of human emotional capacities.

Without these fundamental beliefs, Western society could neither have been evolved, nor would it continue to exist as it is. This should be borne in mind as long as some Indians think of imitating certain aspects of Western society: mere imitation without acceptance of the fundamental roots will never produce a stable society.

Rather it should be asked whether similar results can be arrived at from the Hindu background. But the fundamentals of Hindu belief are drastically different:

1. *Man is living more than once. He is caught in a long sequence of birth and rebirth.* Therefore life is neither unique nor very precious. In fact it is one of the major fetters by which the human soul is bound into earthly existence.
2. *The world is of a transitory and illusionary nature: a mirage, sustained by ignorance.* So is society. And so are all objectives of society.
3. *Ignorance causes objects to appear as real, objects suscite desire, desire*

results in attachment and bondage. All enjoyment of the sense objects, all attachment to the pleasures of life produces negative effects, pushing man more deeply into the sea of conditioned existence. Why, then, should society provide for a pleasurable life for all?

4. *Love causes attachment, compassion causes attachment, desire to help others causes attachment*. A society supported by such emotions would only serve to spoil the individual's efforts for final release.

5. *Man should acquire merit, through merit detachment, through detachment knowledge, through knowledge release*. In release he reaches the final goal for which he has suffered in many lives: He escapes from the bonds of conditioned existence and reaches the absolute.

Under these circumstances, what is the task of a society, and how is it supposed to function, if the supreme aim of each of its members is to escape from that society as well as from worldly life as such? How can society rely on the support of its members if they accept as ideal a conduct of life which is a training for complete detachment from worldly affairs, to the extent that, being unmoved by joy or sorrow or by the fate of other human beings and their pains, one even does not care for one's own physical well-being? Society, it seems, can find no basis of support in such a philosophy. The emotional ties between individuals — a most essential root of society — are being extirpated. Man is alone on his way to the absolute. And there is nothing to protect, for life is transitory and vain, and material goods are but ties to bind people in ignorance.

Is, therefore, society in India existent in spite of Hinduism? Are its defects or corruptions possibly due to a lack of fundamental support from religion and philosophy?

Time for self-realisation

The view of the critic, though based on logic, is entirely inadequate to the complexity of Hindu thought. Hinduism knows of several layers of truth which correspond to different horizons of consciousness, to different degrees of awareness and spiritual achievement. In the long migration through uncounted lives some individuals have proceeded far on their way towards self-realisation and release. Their goal may be near at hand, their aim not vaguely guessed but clearly seen, and the determination to reach it growing stronger with diminishing distance. These individuals are indeed fully indifferent towards worldly affairs. But they are few.

Others, perhaps aware of their ultimate task but not yet able to tackle it, are still caught in the deluding network of sense perceptions and enjoyments. Others again are fully submerged in the sea of ignorance. All these have to continue living. For them a functioning society is essential. They will be born into it again and again at different levels according to the merit acquired in previous lives. Final release is not gained at once. Ever renewed efforts are needed and for them time is required.

At this lower level, Hinduism provides a second set of ideals and moral teachings. They are at the base of Hindu society. Yet they are subordinate to those fundamentals mentioned above. Therefore some of the values operating in Western society remain excluded and different ones are introduced which are no hindrance for self-realisation. Obviously, within this framework, the basic demand to be answered by society must be, not to protect life, but to support man's effort for self-realisation. It should never be allowed to block his way towards final release.

To gain merit through action, and in action to avoid bondage: this is the task of man in society. What stipulates action, after exclusion of all emotions, desires, hopes, etc., is the duty of the individual. This duty is of two kinds. One is determined by caste and family position. It is self-imposed by the actions in a former life which resulted in this particular incarnation. The other is based on the *raison d'être* of each profession, office, or public function. Both form a constituent part of an extensive system of individual duties which provide for the welfare and protection of society as well as for the individual training in self-control or detachment.

Human inequality accepted

There is a strong notion in Hinduism of the basic inequality of people who live as contemporaries. It results from the knowledge that men are, in fact, different, and from the feeling that some are more advanced on the way towards their ultimate goal than others. Between them and the less advanced there is a difference of quality and purity which accrues from the acquisition of merit in many previous births. It is but natural that such merit should be reflected by the degree of prestige afforded to the individual in society. But if the prestige and influence in society as a whole are viewed as a reflection of spiritual merit, it follows that social differences are not accidental, and tend to be sanctioned and perpetuated by religion.

For one who does not believe in reincarnation, this spiritual justification of social hierarchy appears to be a perfect tool, designed by the ruling classes for exploiting and suppressing the lower ones. However, to anybody who believes himself to be subject to reincarnation, this interpretation is absurd: the material gains that could be acquired by using such tool, would be balanced by the resulting misery of the next life and outweighed by the simultaneous loss of both status and hope for release.

It would be more correct to recognize in the caste system a tool for protecting the spiritually advanced "purer" ones against pollution by the lower "impure" ones. Social mobility is always envisaged, but only through self-purification which results in a higher social position in the next life. Mobility, *being a function of purity*, can only be individual, and generally takes effect in the next life. It is not for this life nor does it include the other members of the family whose moral future depends on their own efforts alone.

To give and to receive

Separated by rules of purity and avoidance of pollution, a large number of castes and subcastes coexist in social, economic and partly ritual or moral interdependence. As they are subject to the factor of regional distribution, there evolves a pattern of clustering, yet clearly defined separate groups in which each group is basically responsible for its own social security.

Within the group, the main task of providing for this security vests with the still smaller unit, the extended family. This family, in a combined effort of all its members, provides for such services as sustenance and care for the sick, the disabled , and the old members of the family as well as for those without work or income. Although these services are primarily meant for members of the extended family, the duty to help extends to more distant relatives, and beyond them to all potential relatives, i.e., to all those who are subject to the same purity rules and therefore form an endogamous caste. Beyond the caste limits, responsibility for others ceases to exist. Avoidance-of-pollution rules render it equally impossible to give and to receive direct help. Only indirect help can be offered by way of alms and donations. They are an important regulating factor in Hindu society, by which high merit can be gained. They are stated to be indirect help, because the giving itself is done mainly with a view to accumulate merit for oneself, while the benefit of the receiver is accidental.

The family-preserving duties do not derive any theoretical support from love or affection. Even in this domain which is theirs by nature, they are not used as a strengthening principle in society because of their adverse results on human progress towards salvation. Instead, the duties are inherent in the status and functions within the family: the state of being a father creates responsibility for the wife and the upbringing of children, the state of being a son involves the duty to support the parents and to give them ritual assistance at the time of death, etc. Each family member is subject to such duties and each benefits from the common efforts in course of time.

The acquisition of merit

The society-supporting activities on the family level are inspired by the need for social security. In contrast, the obligations connected with profession and public offices are fulfilled for the sake of religious merit. This motivation overshadows and controls the economic considerations of the family level.

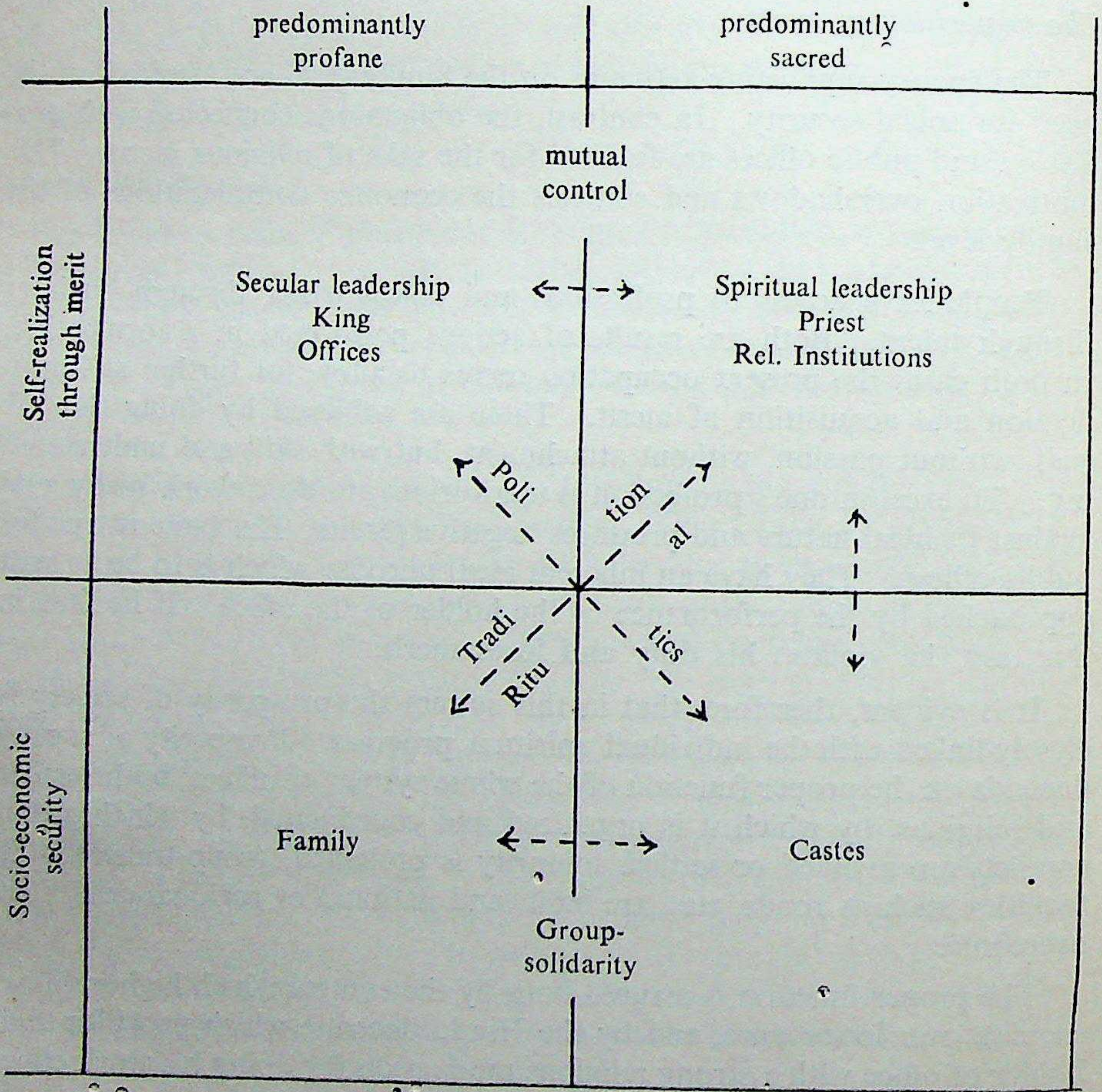
People have access to professions and offices either through birth or through talent. Both are results of actions performed in a former life. In both cases the present occupation serves to allow for further self-purification and acquisition of merit. These are achieved by doing the job well, without passion, without attachment, but with skill and understanding. To excel in one's profession is meritorious; to do a work badly goes against its ideal nature and produces negative results. The same is true for public offices. They have an inherent ideal purpose which is to be at least approached by the performance of the holder of the office. If he fails in this task, he violates his duty and loses merit.

It is evident, therefore, that in this system the prosperity of society is closely linked with the individual spiritual progress. Prosperity of society depends on the proper function of the whole system of offices, both secular and religious, by which it is organized and coordinated, by which group conflicts are avoided or settled, minority is protected, group-transcending facilities such as roads, etc., are built, and national or regional calamities overcome.

The proper function is assured both by the control which higher offices exercise over lower ones, and by the Hindu doctrine which provides each holder of office with a strong religious motivation for doing his work effectively and without blame: His own status in a future life will depend on it. The ideal state in which nobody suffers, righteousness is universal, and even nature will conform to the order which prevails in society, is thus entirely based on the motivating factors of self-protection and self-realization or spiritual progress of the individual.

The functional pattern

It may be useful to draw out the pattern of Hindu social structure in a simplified diagram.


predominantly profane
predominantly sacred
mutual control
Secular leadership
King
Offices
Spiritual leadership
Priest
Rel. Institutions
Self-realization through merit
Poli
tion
al
Tradi
Ritu
tics
Socio-economic security
Family
Castes
Group-solidarity

This diagram of four sectors is divided into the spheres with predominantly, though not exclusively, profane or secular functions on the left, as opposed to the predominantly, though not exclusively, sacred or religion-motivated functions on the right.

In its upper part, the secular leadership and the spiritual leadership stand as representatives for the whole set-up of secular and religious organisation centers and institutions. It is characteristic for this upper part, which includes all public offices and professions, that action with social responsibility is motivated entirely by the striving for religious merit. Such merit is gained by selfless execution of one's duty. Perfect execution of duty results in prosperity of the people. Therefore the self-perfection of the individual is linked, through its appointed task in life, with the welfare of society.

The lower part of the diagram shows the sectors of family and caste of which the latter, as determined by purity and non-pollution rules, belongs to the predominantly sacred units of Hindu society.

In these lower sectors all society-supporting action, all responsibility for others, is motivated and determined by the necessity to secure economic stability and social security for all members of one's own group. The resulting conflicts between the groups would necessarily lead to the suppression of the weaker ones, if the institutions of the upper sectors failed to exercise physical and moral pressure in order to preserve a balanced co-existence of the different units of society.

Internal political tensions and aspirations operate in the diagonal between castes and secular leadership, while tradition and ritual are firmly established in the close connection between family and spiritual or religious leadership. The influence of the latter extends, as it were, "from inside" to the caste by way of its firm ritualistic hold on the family. And at the same time, the religious implications of caste hierarchy in terms of spiritual achievement constitute "from outside" the stabilising frame of society.

Political and spiritual leadership mutually influence and control each other, in order to assure that the means at their disposal are used for harmonising group egoisms and for the benefit of society as a whole.

It is evident in this system that society as a whole depends on the proper function of all four sectors of the above diagram. It is equally clear that the two leading sectors can have their harmonising and society-protecting effect only as long as they are fully guided in their actions by the religious motivation (to acquire merit). As soon as this motivation loses its dominant power, each man in office or in high position, being a member of a family and of a caste will use his power to strengthen his own group, thereby transferring the motivation of the lower sectors of our diagram to its upper part. Corruption of society is the inevitable consequence.

Therefore, it is essential in a Hindu society that among the motivations for performing official or religious functions the religious motivation should be dominant.

This is only guaranteed by a firm belief in reincarnation, and in the causal link by which all present actions are connected to the moral — and consequently social — status in a future life.

A matter of the past?

Historically, it was unfortunate for Hindu society that non-Hindus came to rule over a Hindu population. These rulers were not subject to the principal religious teachings and motivations which used to support Indian society. They ridiculed the belief in reincarnation. They restricted the influence of the religious institutions in many ways. And in several centuries of their rule, whether Muslim or Christian, they succeeded in alienating large sections of the former Hindu elite and middle classes from their own fundamental beliefs. To them the Hindu teaching of reincarnation became suspect. The dogma of the fruit-of-action lost its strong moral influence. And while the Hindu religious convictions were fading away, the surviving caste system, too, lost its moral significance.

Whether this was an irreversible process or whether Hinduism has enough regenerating power to inspire Indian society once more with its values and basic beliefs, this is not the place to predict. But it has been shown, I hope, that a society can be effectively based on a set of fundamental beliefs and values which are entirely different from, and even opposed to, the Western ones. The major motivations which operate in society in the West can be rejected without harm if other motivations derived from different beliefs are equally strong.

This was the case in Hinduism. According to its peculiar understanding of the nature of this world and of human existence, it has evolved its own patterns for establishing social security. It has integrated socially responsible behaviour into the human struggle for self-purification. The same principle which ultimately leads beyond this world was operating in Hindu society: the longing for final release and for union with the absolute.

During the many centuries under non-Hindu rule, India has had no chance to preserve and maintain a proper Hindu society, much less to adjust it to the changing conditions of life. One or both of its leading sectors were mostly handicapped. Today again it finds itself under the pressure of foreign influence, and it is far from approaching Hindu ideals. Nevertheless it should be remembered that Hinduism once offered a real alternative to the Western concept of human society. From what it may offer in the future we shall be able to see whether the basic concepts of this ancient religion are still alive.

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RICE-CULTIVATION IN THE HIMALAYAS

Geo-ecological and socio-economic aspects of high-altitude agricultural landscape-types in India and adjacent regions

BY

HARALD UHLIG (Giessen)

Rice-cultivation — the most outstanding feature of Monsoon Asia's agriculture — is usually regarded as a phenomenon of the plains, where its spreading is associated with the rise of the great cultures of South and Southeast Asia. However, it also plays a significant and extremely differentiated role in the Himalayas and its adjacent mountain areas, where human habitation turned its valleys, intermontane basins and slopes into cultural landscapes.[1]

A geographical study of rice-cultivation in the highest mountain chain on earth requires several aspects to be taken into consideration:

1. the geo-ecological situation. The three-dimensional approach developed by C. TROLL (1961) according to latitude, longitude and altitude with variations in temperature, precipitation and radiation as well as in the resulting zones of natural vegetation, exposure, etc. must be applied also to the distribution, altitude limits, location, cultivation periods, etc.

2. the strong cultural and economic, and especially the ethnological and sociological differentiation.

3. in many cases rice-cultivation originates from the historical-genetic aspect, from the history of the expansion of cultural plants to the history

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[1] The following article is a concise version in English of the paper "Der Reisbau im Himalaya", that was read by the author during a German symposium in the Academy of Sciences and Literature in Mainz in November 1970 on the cultural geography of the high mountain regions of South Asia. It is to be seen in connection with the efforts of the International Working Group for the Terminology of the Agricultural Landscape" of the International Geographical Union, which also held a meeting under the chairmanship of the author during the XXI. International Geographical Congress in New Delhi (1968). Together with R.D. HILL of Singapore, the author submitted a draft presentation for a geographical terminology of rice-cultivation which forms the basis of a further scientific discussion on that programme (UHLIG, 1969 b).

of settlement and population development, and it was also influenced by political-historical forces.

First of all an attempt will be made to show the various types or rather the possibilities of rice-cultivation and its place among the agricultural landscapes on the basis of some regional examples.

1. Cultural landscapes with dominating permanent wet-rice-cultivation

1.1 *Kashmir*

Most authors (COPELAND, 1924; BLANKENBURG, 1933, GRIST, 1953, ANGLADETTE, 1966) assume the rice-cultivation to have originated in the monsoon-flooded lowlands of Northeast India or Southeast Asia (Cambodia or the Philippines) and in China as far back as 3000 B.C. On the other hand, VAVILOV (1930, quoted after Grist) opined that the southwestern Himalaya was the presumable center of the origination of rice-cultivation (whose types are quite similar to those in China). He arrived at this conclusion from the abundance of varieties developed in native rice-cultivation which are the more numerous the longer this culture plant is established in a certain region.

A prototype of the highly developed Himalayan rice-cultivation landscapes extends through the Kashmir-Valley at an altitude of 1580 — 1900 metres. The winter cold with its snow lasting several months allows a single "Kharif"-crop of rice in summer only. The relatively dry summers (in the lee of the "Outer Himalayas" which intercept the monsoon rains) are interrupted only by a secondary precipitation maximum and favour, in addition to warmth and radiation, the growth and cultivation of rice in high elevations. The abundant water supply from the surrounding (glacier-) mountains ensure optimal growing conditions in spite of the relatively dry summer. According to H. FLOHN (1970) the Kashmir-basin belongs to a principal climatic type of the Inner Himalayas characterized by winter, spring and regular midsummer rains (July to September) and by two relatively dry periods (May/June and October/November). This type can be traced from parts of the Hindukush and the Western Himalayas over a zone of isolated valley basins to Nepal and Sikkim. It obviously offers the most favourable rice-cultivation climate in the Himalayas.

The alternation of favourable summer seasons and severe winters caused the development of a wet-rice-cultivation, widely spread in South and Southeast Asia. It is characterized by a one-field system, with fallow in winter, in continuous succession year after year on the same area of cultivation. As a result of recently improved agricultural methods (e.g. new varieties with shortened vegetation periods) an increasing expansion of additional winter catch crops (mainly oilseeds) is brought about. Traditionally, however, there is a supplementary cultivation of different extent on the higher situated, unirrigable spots at the perimeter of the rice fields.

The ecological advantage of natural wet-land (the "Nambal" back-swamps behind the levees and alluvial cones in the flat valley-floor) in a dry climate with warm summers, suitable for one wet-rice crop, offered ideal conditions for permanent settlements of rice farmers from prehistoric times. Slightly elevated dry sites such as levees or terraces provided locations for nucleolated villages and additional dry crops or orchards in the neighbourhood of the potential rice land. The importance of this "amphibian" core zone of Kashmir for the settling of rice-farmers is also shown in the fact that, in the absence of good dry locations, a number of villages and hamlets were built on artificial mounds. The best-known prehistoric settlement sites (e.g. Burzahom) and the sites of the early historic centers of Kashmir (e.g. Parihasapura) are situated in this typical location, namely, on the edge of the dry-land (often the so-called "Karewa"-terraces) boardering on the neighbouring, periodically flooded area. This is characteristic for many settlements of the earlier civilizations in South and South-east Asia where fishing and rice-cultivation was based on annual natural inundation.

Although the excavations of Burzahom have not yet brought forth any definite evidence of rice, it can undoubtedly be regarded as a fact that it was grown there at the time of Ashoka's reign (3rd — 2nd cent. B.C.). From the periods of the Hindu kings of the 7th — 9th cent. A.D. and the following Moslem dynasties, the steady extension of rice-farming has been proved by historical documents as well as by the remains of early canals, melioration and irrigation works etc. (A. STEIN, 1900; H. GOETZ, 1966, 1969). The realization of these cultural achievements requires the existence of a fairly high stage of socio-economic development: the so-called "feudally organized agricultural society" (H. BOBEK, 1962) which was able to carry out communal works like the paw of rice-cultivation on the basis of canal-construction and terracing of extensive slopes.

After the initial establishment of settlements on the naturally inundated land, it was possible to extend the cultivation of rice to the very edge of the irrigated soil, i.e. to the feet of the steep mountain flanks. This was achieved with the help of terracing the slopes and using canals to irrigate the rice-fields. The types of settlements and their economic systems resemble to a great extent those of the villages on the older location at the edge of the naturally wet lands. Above the uppermost rice-fields there follows an abrupt change in the cultural landscape. Fairly recent Kashmiri pioneer settlement with different land-use (maize on dry fields in summer, wheat and barley in winter) occupies the higher terraces and slopes which are not to be reached by irrigation. Furthermore, farmers of different ethnic stock (permanently settled former nomades of the Gujar tribe) with other types of settlement and land-use have come to stay.

In accordance with traditional rice-cultivation in Kashmir, broadcast seed (="Wattru") and the transplanting from nurseries after approx. 40 days ("transplanted rice"="Trupai") exist side-by-side (LAWRENCE. 1895). The broadcast-sown rice which requires a longer growing-process in the fields, necessitates a reliable and regular water-supply and longer warm periods. Therefore, this type cannot be taken into consideration for the higher elevations. The working hours saved by not transplanting the rice are partially counterbalanced by the fact that broadcast-sown rice must be weeded intensively four times a year in addition to the treading and kneading of the soil ("Khushábas"); transplanted rice, however, requires to be weeded twice a year only.

In some areas it is necessary for the rice which has partially sprouted in advance in soaked sacks to shorten the vegetation period, to be sown in nurseries (Niháli). This is especially true in those areas where only delayed irrigation is possible, where the vegetation period is too short or where the larger fields are purposely left as dry fallow for 40 more days in order to absorb sunshine and air and possibly the dung of sheep and cattle. Transplanting of rice, although originally less popular among the Kashmiri rice-farmers, has continually increased in modern development because, along with the new quick-growing types of rice, it has provided the extra time necessary for producing one catch-crop of oilseed or rape on the same field.

On account of this labour-intensive farming (transplanting, weeding, harvesting), even the rather small average farms (0,5 - 2 ha) require the entire labour-force of the rice farmers and their families. Larger farms still accommodate family groups of several brothers and generations. The Kashmiri rice-farmers need ample livestock (especially cattle and sheep) for ploughing, dung, and as a supplement to their economy. But after the rice has been planted and irrigated, there is a shortage in grazing grounds. On the other hand, the intensive rice-cultivation is binding in its peak-periods of labour all members of the rice-farmer families to the fields. Consequently, a characteristic socio-geographic symbiosis has developed with its own social class of professional shepherds, the so-called "Chopans", who take the rice-farmers' livestock in a regular transhumance to the alpine pastures in the surrounding mountains and stay there throughout the rice-cultivation season.

1.2 *The Chenab-Valley region* (*Jammu*)

Wide valleys with flat floors, suitable for the development of an agriculture characterized by wet-rice-cultivation are seldom found amid the steep and highly dissected Outer Himalayas; furthermore, the socio-economic structure of the predominating *Pahari* population, with an occasional sprinkling of Kashmiri immigrants, may be an additional factor for a modified economy.

Significant for the different land-use types of these groups are the conditions at the Banihal Pass, the main gateway to Kashmir proper. In the highest flat valley floors of the Banihal Valley, the Kashmiris who have settled beyond the pass have established their type of predominating wet-rice cultivation by means of terracing the slopes. But as we proceed down-stream reaching regions populated by the *Khahi*, who belong to the Pahari and live on both sides of the Ramsu-gorge which cuts steeply down to the Chenab Valley (UHLIG, 1970), we find a sudden change from terraced and irrigated rice-cultivation to an additional equally, if not more important dry-field cultivation of other crops, a type to be described later on.

Most of these dry-fields have still to be terraced on the steep slopes. But the coarse and high, slightly sloping dry-field terraces are clearly distinct from the accurate, level and dyked irrigation-terraces of the rice-cultivators. Here, nature provides only rare sites for wet-rice, where water and some cultivable land is available. Often enough, these small, favourable plots are situated far away from the settlements, usually in difficult accessibility on the ground of deep river gorges. Some of them need even to be equipped with additional temporary settlements, in which the villagers dwell during the days of working these small wet-rice fields. They form thus an extra "stage" of land-use and settlement; though valuable, they are no longer so important a part of the Pahari-farmers' agriculture, as to call their owners rice-farmers. They might be regarded as hill-farmers with a diversified economy, scattered over different land-use stages which occupy a considerable range of elevation over steep slopes. Thus, they are clearly distinct from the Kashmiri, who are mainly farming their compact rice-fields on flat land or terraced slopes; whilst other land-use types constitute only minor additions to their economy.

The former type, viz., villages with mainly dry-field cultivation on steep slopes and only some extra plots for irrigated rice-cultivation, occupy the majority of the Chenab region, and beyond it many more Himalayan valleys (see below). Within the Outer Himalayas of Jammu State, just one major exception is to be found, namely the upper valley of the Neru river (a southern tributary of the Chenab) around Bhadarwah. Framed by slopes with Cedrus Deodara forests—which provide a reliable water supply — a flat and undissected high valley-floor (1600 - 1700 m) offers again all favourable conditions for another small region with an intensive high-level rice-cultivation.

By intricately terracing this large valley bottom, a few villages have created such a considerable uniform rice-cultivation (with only additional marginal dry-fields) that it is colloquially called "little Kashmir". The Kishtwar Plateau, on the other hand, which originated likewise from an intermontane basin is located further up the Chenab River, in similar altitude and in a comparable historical and ethnical situation; it has, however, been deprived of the possibility of a sufficient water supply for irrigation by the young and intense dissection of the Chenab Valley, bordering the edge of the plateau. Therefore, in spite of the favourable stretch of gentle land, dry-field cultivation had to be established. Wet-rice is restricted to a few small patches below in the river-gorge, where some terraces could be placed into the steep slopes, provided they can be reached by irrigation. The possibility of growing rice in impounded rainfed fields or even of growing dry-rice, is not given because the precipitation in this locally dry mountain-basin is too low.

Larger areas of compact wet-rice land occupying one continuous wide valley floor, where a true rice-cultivation commands the entire economic and landscape structure, only occur again in some lower lying basins of the Siwaliks, provided they have a reliable water supply (e.g. Udhampur on the Tawi-river). Their situation corresponds to the rice-farming areas of the greater "Duns" farther east, as the Dehra Dun or the Rapti Dun in Nepal.

1.3 *Kangra*

The Kangra-Valley (Himachal Pradesh) offers a further example of a uniform agricultural landscape primarily based on wet-rice cultivation. According to its tectonic structure it belongs also to the series of "Duns" between the Outer Himalayas and the Siwalik Range, but its altitude lies between 800 - 1,200 m and its northern flanks are built up of the abruptly towering Dhaola Dhar chain, (to an altitude of 4,770 m). An important difference compared to the Kashmir basin is the lack of the perennial water-flow from the glaciers for irrigation. However, some 80% of its high precipitation falls during the summer monsoon which breaks with strong rainfalls on the abruptly rising mountain flanks (Palampur: 2,550 mm). As a result irrigation is secured during the rice-season and all flat or easily irrigated land is carefully terraced for wet-rice cultivation.

In contrast to Kashmir, the rice-fields are used here for a double rotation with a (previously more extensive, after recent agricultural improvements more productive) winter wheat. The similarity to the cultivation system of the Panjab, with its widespread rotation of wet-rice in summer and winter crops without irrigation on the same fields, can clearly be seen.

1.4 *Nepal*

An important culture primarily based on wet-rice cultivation can finally be found in Nepal; comparisons of the Kashmir and Kathmandu Valleys are especially informative (DUPUIS, 1962). Both basins are regarded by the population as the cradle of the respective countries of Kashmir and Nepal. Like in the mountain basins of Southeast Asia, the old settled areas of a permanent agricultural civilization with irrigated rice have been the core of early highly organized feudal states. In both cases they are closely related to the — in the Himalayas otherwise rare — development of important ancient cities. In addition to the large Kathmandu Valley, several smaller ones — e.g. Pokhara, Panekhal etc. — should be mentioned as well as some valleys which are partly dissected down to levels of 700 - 800 m above sea-level (e.g. Trisuli Valley). This means that they are already much warmer and more tropical (Sal-forest!) than the Kathmandu basin, which in turn is already considerably warmer and receives at an altitude of 1,300 - 1,450 m more precipitation than Kashmir. (Kathmandu: July mean temp. 25° C, Jan. 10° C; annual precipitation 1,419 mm, of that 1,279 mm fall from May to Sept.).

Two marked differences clearly distinguish the method of rice-cultivation used by the farmers of Kathmandu from that of the Kashmiris: the Newar rice farmers of Nepal regularly apply a rotation with other crops (occasionally combined with winter irrigation) of wheat, vegetables, onions, winter potatoes etc. instead of winter fallow. With the help of highly developed irrigation systems and intensive (also mineral) fertilizing, it is possible for them to produce two crops a year on the valuable soil of the valley plains. The fields are converted between these two types of cultivation so as to allow an alternation between rice (with earthen dykes and irrigation ditches) winter-crops of wheat, potatoes etc. (requiring ridges and furrows or flat fields). This is accomplished in spite of the extremely small size of the farms, which are even smaller than those in Kashmir with an average of 0,4 - 1 ha. On the other hand, they have less additional fields on marginal dry land at their disposal, because this is usually occupied by different groups of population in dispersed, single farmsteads with mixed dry-fields and some steeper terraced wet-rice land on the slopes surrounding the valley (Chetri, Brahmin, Tamang).

The second conspicuous difference is that the rice is cultivated — although on completely flat and regularly irrigable land — with the short-handled "Kodari"-hoe. This is a surprising exception to the normal type of rice-cultivation with the plough that is generally regarded as the criterion of a "high culture", in contrast to the dibble or hoe-cultivation of mountain tribes[1]. Even more so is this an exception if one considers that already shortly above the Kathmandu Valley other ethnic groups (e.g. the Tamang) use ploughs on the smallest terraced fields or even on extremely steep slopes (e.g. in the Trisuli Valley). The very heavy clay soils of the Kathmandu Valley may offer one explanation, but probably also cultural traditions play a role. This has, however, not yet been fully clarified. In many other parts of Nepal, which do not share the natural advantages of the wide floors of the large or inter-montane basins, the rice-cultivation is reduced again to a status of an additional land-use type, which goes along with usually more important complexes of dry fields. The latter are normally nearer to the permanent settlements. On the huge, steep slopes they have to be terraced too, but in higher and coarser, less carefully levelled and unirrigated terraces. Many of them are cultivated in regular common-field rotations, whilst the wet-rice complexes form small extra areas of an additional cultivation frequently far away from the villages (see 2.4).

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[1] Comparable deviations from the "normal type" of wet-rice cultures with plough cultivation in favour of the use of a broad hoe can also be found in Java; the same applies to the Ifugao on Luzon, cultivating the world-famous high terraces on extremely steep slopes, whereas in Java, similar to the Kathmandu Valley, entirely flat fields are cultivated with the "Kodari"-hoe. **Heuberger** (1968) stresses the fact that this hoe-cultivation of the heavy clay soils of the valley is accompanied by all other achievements of a ploughing culture.

1.5. *Sikkim-Bhutan-Assam*

This also holds true for rice-cultivation in *Sikkim* and *Darjeeling*. In *Bhutan* a number of deep and wide valleys can be found (e.g. Paro, Thimbu, Tongsa etc.), which form marked dry and warm basins (with limited cloudiness and high radiation) amidst of moist forest-mountains. Water for irrigation is amply provided from the catchment areas of the main rivers on the high glaciers or in the moist forests. Therefore, wet-rice cultivation on quite compact, terraced irrigation fields can climb to altitudes of up to 1,800 m, or even 2,000 m in spite of the growing approximation to the climatic character of the tropical forest mountains. SCHWEINFURTH (1957, after K. WARD, KAULBACK, BAILEY and others) noted similar conditions even eastward of the Tsang-po gap in *Zayul*. There also in the locally dry climate of the valley floor, wet-rice cultivation is worked as high up as 1,800 m. In both cases, in Bhutan as well as in Zayul in Assam, it cannot be positively deducted from the information at hand, which relation exists between the agricultural systems of the wet-rice cultivation of the valley floor and the dry-field terraces (maize, wheat, barley) of the higher slopes. In other words it cannot yet be specified, to what extent agricultural systems, which rely completely or mainly on irrigated rice-cultivation, have reached the eastern parts of these mountain ranges.

In the steeper and more narrow valleys of the rain-forest covered mountains of Bhutan and Assam, however, where a damp and cloudy climate prevails and high radiation and local aridity are missing, rice-cultivation is found more frequently in "shifting cultivation" ("Jhuming"), which will be discussed in para 5.

In eastern Bhutan and the Assam-Himalayas the geo-ecological, ethnic and cultural-geographical features show a gradual transition towards Southeast Asian landscape types. The growing predominance of stilted houses is only one example. From the Subansiri region (Assam) FÜRER-HAIMENDORF (1962) has described the Apa Tani which created a small, "island"-like cultural landscape unit amidst the densely forested hills, which seems to be a smaller counterpart to the rice-cultivation domains of

Kashmir or Nepal, However, the regional context likewise points towards Southeast-Asia, as that valley with its irrigated rice-fields and permanent settlements is surrounded by forest-clad slopes which are occupied by hill-tribes (Dafla, Miri etc.) These follow a true shifting cultivation by growing dry upland-rice with a dibble, and inhabiting in some cases long-houses which are shifted to new new sites from time to time. In this environment of nearly untouched vast tropical mountain forests, thus another "stratification" of various cultures becomes apparent: permanent wet-rice farmers in the valley-floors and above them other ethnic groups with different socio-economic systems which have been described by the author while comparing Kashmir and northern Thailand (UHLIG, 1969).

2. Supplementary wet-rice cultivation at greater distances from the settlements

In contrast to the first basic type in the intermontane basins or valleys where cultivation is dominated by wet-rice, we find in many parts of the Himalayas a fundamentally different land-use type, the chief importance of which lies in dry-field cultivation. Wet-rice cultivation is limited to some small terraced parcels favoured with a natural water-supply for irrigation. They are often located so far away from the villages that it becomes necessary to build additional temporary settlements.

2.1. *The Chenab region* (*Jammu*)

If the description of regional examples is to begin again in the Western Himalayas, reference should be made to the Chenab Valley which is separated from the Kashmir basin by the ridge of the Pir Panjal (UHLIG, 1970). In spite of its leeward situation between the steep flanks of the Outer Himalayas, it receives more precipitation than the Kashmir basin (Kishtwar approx. 765 mm, Ramban 1,143 mm/year, in comparison to Srinagar with 635 mm/year. However, due to its warmer, less elevated location and the high rate of evaporation, the Chenab Valley is very dry and hot; consequently, the natural vegetation of sub-tropical evergreen sclerophyllous forest continues far into the mountains. On the steep flanks of the deeply dissected valleys, settlements (predominantly Hindu-Pahari) and agriculture are restricted to isolated sites on the higher rock-terraces and to spurs above the present river-gorge (fortunately covered by glacial drift which provides a good soil). They are also to be found on some plateaus, originally floors of a former, wider valley, which got dissected after the younger uplifting of the Himalayan mountains. But nearly all of these rare stretches of level ground stand high above the sources for irrigation; the major cultivation has, therefore, to be based on dry-field crops. These are also frequently grown on carefully terraced arable strips carved into the steep mountain-slopes.

Although the Chenab River with its perennial water-supply from the glaciated mountains has abundant water throughout the year, it rushes by the tilled areas in deep canyon-like gorges at such a low level as to be of no use for irrigation. Similar situations have been described in Swat by FAUTZ and in Hunza Karakorum by PAFFEN. Irrigated cultivation of rice is, therefore, restricted to only a few patches in favourable situations which receive some water from smaller side-valleys or could be created in some "niches" in the gorges of the Chenab itself. Since these isolated fields are often quite distant and can only be reached over steep and difficult paths, wet-rice cultivation is forced into the position of a supplementary cultivation stage with temporary secondary settlements.

2.2 *Kulu*

This type of agriculture, based on huge flights of terraced slopes for dry-field cultivation, with some additional irrigated land for wet-rice, is more widespread in the central and eastern parts of the Himalayas. A fine example is to be found on the slopes of the uppermost Beas Valley, the region of Kulu (Himachal Pradesh). There, the old villages of the Kului (Hindu-Pahari) are situated in nucleolated villages halfway up the valley slopes at an altitude of ± 1,600 - 2,000 m, in the border region between the temperated mixed coniferous-decidous forest and the coniferous forests of the higher levels.

The climate is accordingly moderate with snow from December to February. The precipitation distribution with some winter-spring rainfall, sufficient mid-summer rains and relatively dry periods in May/June and October/November corresponds roughly to the climate of Kashmir, however, with a higher amount of rainfall (e.g. Nagar [1,600 m]: January-April: 504 mm, May-June: 126 mm, July-September: 486 mm, October-December: 102 mm; annually 1,218 mm).

But despite the advantages of that climate for irrigated rice, the scarcity of irrigable fields (or rather of regular water-supply) restricts this crop again to a limited number of sites, whilst the major part of cultivation

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around the villages is based on unirrigated "dry" crops. They are grown on huge, terraced slopes, terraces which are higher and more coarse compared to those of the irrigated rice-fields.

Their surface is gently sloping and not blocked up by earthen dams. The many individual field strips are grouped into complexes with regular common field rotations (German: "Zelgen"; Ind.: "sar"). There are two such common field complexes for the "Kharif" crop during the monsoon: one for maize which apparently replaces the formerly more widespread dry-rice (see below), and in the second year for millets (Eleusine coracana). Wheat or barley are the Rabi (winter) crop, in the second year the winter-"Zelgen" used to lie fallow (nowadays replaced by some other crops, e.g. oil-seeds, rape etc.). The sequence of rotation is:

	Summer (Kharif)	Winter (Rabi)
1st year	Dry-rice or maize	Wheat
2nd year	Millets	Fallow

More details on these dry-field rotations which play the first role in Kulu agriculture, were given in a German language paper (Uhlig, 1971; see also below, 4.2.) With regard to the question under discussion here, the second cultivation district (irrigated rice-land) is, however, of greater interest. It is normally to be found beneath the sites of the villages and their dry fields on the alluvial cones which the tributaries have once piled up in the main valley. These sites not only offer favourable soils and more gentle relief conditions, but also good technical possibilities for irrigation. They have consequently been converted into systems of fine, strictly horizontal terraces, enclosed by bunds. This irrigable land ("Ropa", "Roppi", in some other places also called "Kiar" — similar to Kumaon: "Ropai" [Nitz, 1966; Pant, 1935] and in Kashmir "Trupai" for transplanted rice) is exclusively cultivated with transplanted wet-rice during the monsoonal summer-months and lies mostly fallow in winter. In a few cases, it may be cultivated directly from the permanent settlement. In most cases, however, it is farther away, sometimes up to several hours distant from the permanent settlements.

For this reason, additional temporary settlements are necessary for these rice-lands, the so-called "shorn". The formation of multiple structured economic and settlement systems can be discerned in the clear separation between the dry-fields used in regular, common summer/winter rotations and the separate wet-fields used only in summer for rice. This formation is characteristic for large parts of the Himalayas.

Frequently it is supplemented by additional economic "stages" for hill-pasture and other cultivations with further temporary settlements. In this way, the contrast to the type of the *primary* rice farmer with his one permanent settlement as described earlier becomes even more pronounced.

The Kulu wet-rice field complexes may be the property of only one village, though more often the fields belong to farmers from several villages in a complicated pattern of fragmented holdings. This rice, in contrast to the broadcast sown dry-rice within the common field rotations (see 4.2) is cultivated with the plough and transplanted from seed-beds.

2.3 *Jaunsar-Bawar*

The inclusion of a special stage of cultivation for irrigated rice into the most extreme example of multiple structured settlements and economies in the Himalayas was found in Jaunsar-Bawar (UHLIG. 1962, 1969) in the Garhwal-Himalayas, north of Chakrata. This portion of the Himalayas is characterized by very steep, narrow valleys (with heavy rainfall during the summer months) between forested ridges, whilst wider basins or valley floors are not to be found. The mountain slopes range from the tropical semi-humid zones of the monsoonal forests to the level of the temperate oak and coniferous-deciduous forests. The populated area of each village thus extends over a range of ± 2,000 vertical meters and therefore passes through various climatic zones. Here again, we find most of the main villages half-way up the slopes (predominantly on the lower limit of the coniferous forests and the average winter snowfall line), surrounded by terraced slopes that are used for dry fields throughout the year. No regular common crop rotation systems are applied in that region.

The agricultural system is, however, supplemented by a most complicated pattern of other stages of dry-field cultivation on different altitude levels (the highest being potato-plots). Added to this are one or two further areas for pasture so that the sum total may come to as many as six stages of agriculture and temporary (or permanent in case of the main village) settlements per household. Polyandry (which in former times flourished also in Kulu) is still fully preserved and favours this highly complicated form of land-use. Irrigated rice-fields form but one of the various stages of cultivation. They are restricted to the lowest valley clefts, in elevations of 1,000 — 1,200 m. Being the most valuable fields, they are also the most contrasting from the others. Carefully terraced, bounded and irrigated by canals diverted from the streams, they are again fitted with extra temporary settlements, the so-called "hot huts". These are smaller replicas of the permanently used, artistically decorated, half-timbered houses of the main villages, but occupied only during the periods of ploughing, transplanting, weeding and harvesting of those isolated rice-fields. Apart from the nasty, hot and damp local climate of these deep valley clefts, another reason for that merely temporary inhabitation is the danger of malaria, promoted by the ecological conditions.

To sum up: this peculiar position of valuable, but extremely distant wet-rice fields as one fragment of a complicated, multi-level agricultural system, visited only during short periods, mark one extreme end of that scale of types of rice-cultivation in the Himalayas which, on the other hand, is characterized by those types with predominance of rice-cultivation as are prevalent in Kashmir or Nepal.

2.4 *The distribution of the dry field cultivation with supplementary wet-rice*

The structure described in Kulu is an example for a second prototype of cultivation and settlement in the Himalayas: dry field cultivation (often in common field rotations) in the vicinity of the villages, supplemented by additional wet-rice cultivation during the summer. This type is fairly frequent and was observed by the author, for example, among Rai, Limba and other East-Nepalese settlers of the Lower Sikkim-Darjeeling region (Rangit River). HEUBERGER (1968, p. 24) mentions this type in describing the inner parts of Sikkim, confirmed by other observations made in eastern Nepal (LIMBERG, HEUBERGER, HAFFNER) and Kumaon (NITZ).

In the Trisuli Valley in Central Nepal, among the Tamang, the upper parts of the slopes which receive sufficient moisture throughout the year are again farmed with a similar common rotation of dry fields. The canyon-like gorge which the river has cut deeply into the rocks of the lower parts of these slopes, however, shows a local climatic effect which occurs in many of the inner Himalayan valleys: it receives much less precipitation than the upper parts of the slopes. Especially in winter, the lack of moisture is so strong that no cultivation can be carried out. This inhibits the common field rotation, and the cultivation of the few patches of land which can be taken under the plough in the depth of the gorges has to be concentrated on irrigated rice-fields in summer. These rice-fields were observed by the author in elevations of approx. 1,550 m (at the mouth of the

Langtang at Syabrubensi). They are also supposed to exist closer towards the Tibetan border near Kyerong. (This corresponds in a way to the northernmost wet-rice culture of Sikkim in the deeply dissected Tista Valley [Lachen] at an altitude of 1,561 m [HEUBERGER, 1968]).

In the opposite direction, towards the lower reaches of the valleys, in an altitude of 700 - 800 m, the climate attains tropical character, indicated by the occurrence of Sal-forests. The ethnic pattern also changes: in the Trisuli Valley, e.g., a Brahmin population replaces the Tamang of the upper valley. Whereas the unirrigated fields show a wider range of mixed tropical cultivation, the irrigated terraces again constitute the centre of agricultural operations. There, the climatological and socio-economic changes find expression in another type of crop-rotation: wet-rice in summer, followed by wheat with winter-irrigation (replacing the fallow of that season on the few wet-rice terraces further up-stream). This means that the type of cultivation changes towards the practice which prevails in the Kathmandu basin.

3. Wet-rice in mixed rotation with other crops

North of the main ridge of the Himalayas, in the "Indus-Himalaya" (TROLL, 1967), the Karakorum and the Hindukush, the aridity, coupled with high summer temperatures ("alpine steppe"), becomes so strong that even the cultivation of wheat, barley, maize and buckwheat needs irrigation, at least during the summer months. Water is provided by the melting glaciers. Up to elevations above 2,200 m, the temperatures are still warm enough for rice-cultivation, as is reflected in the general rise of altitude limits for vegetation and agriculture. But quantitatively it is only of limited importance because of the restricted cultivation possibilities, ecologically bound to a few small sites. Since the entire cultivation of all crops needs irrigation under these dry climatic conditions, the rice loses its special position and its cultivation is now included into the general rotation of several other crops on the same fields. They may be cultivated in unregulated rotations on small block-fields within a pattern of scattered holdings as well as on strip-parcels provided by the terraces or in "Zelgen"-like common field rotations under irrigation. Some areas, however, receive enough westwind-precipitation in winter, so that irrigation is needed during summer only.

Rice-cultivation, found as high as 2,240 m under such conditions, was e.g. reported by NAGEL (1971) from Mastuj in Chitral. Similar forms were found by **Ehlers** (1970) in East-Mazanderan (Iran). **Grötzbach** describes rice-cultivation from parts of the Hindukush as one crop within a common field rotation, changing with wheat and maize on irrigated fields. In other localities, we find instead also isolated plots near the rivers which are exclusively reserved for the wet-rice cultivation, e.g. in the Farkhar valley.

In the Karakorum (except in the deep main valleys of the Indus and its tributaries) rice-cultivation was observed by **Wiche** (1958) in the Tangir and Darel Valleys (Gilgit-Karakorum). In Haramosh (**Wiche**) or Hunza (**Paffen**, 1956) on the other hand, irrigated fields were described only as for crops of maize or, higher up, for wheat/barley.

In the higher valleys of Ladakh, near the glaciers, agriculture is limited to irrigated cultivation of barley, wheat and buckwheat during the summer (**Uhlig**, 1962). All these areas are situated above the altitude limits of rice which remains far below the extreme upper altitudes for any arable cultivation, the highest being reached by Tibetan barley at 4,540 m (in summer only and under irrigation) in Eastern Tibet.

4. Rainfed-rice and dry-rice cultivation

In spite of the many variations of the position among the various farming and settlement systems, all types described so far have in common one or the other form of wet-rice cultivation. There remain, however, still various types of partial or complete dry-rice cultivation.

4.1 *Rainfed-rice on impounded rainfall*

The Western Himalayas receive too little rainfall to allow any real dry-rice cultivation. There are, however, some examples of a transitional form of impounded rainfall. This is to be found primarily in the Siwaliks where, on the outer slopes of the mountains, monsoonal rainfall is ample. But the edaphic conditions on the prevailing sandy and permeable soils allow the necessary supply of perennial water on a few favoured sites only; the level or slightly sloping areas which would be especially suitable for cultivation are frequently situated on isolated plateaus and remain almost completely without surface water supply because the rivers have cut in so deeply. A special technique of cultivation had, therefore, to be created, if any arable crop should allow the inhabitation of such areas. The problem was solved by a careful terracing and bunding of fields in certain areas (e.g. Chaukichora, n.w. of Akhnur/Prov. Jammu) which do not receive any surface-water (from canals, wells etc.), but serve merely for the purpose of catching and impounding all rain-fall within the individual field which might come with heavy monsoon-showers. These fields are — on the expectation of sufficient rainfall — still cultivated with rice, though frequently yielding a very poor crop only. Since vegetation development is dependent on the amount of precipitation and the impounding of a sufficient amount of rain, the rice cannot be transplanted, and broadcast seed must be applied.

In years with insufficient or retarded rainfall the harvest may be endangered. Sometimes, the rice-plants stand dry over a period of time. Therefore, this type is characteristic only for the thinly populated poor areas, and is usually supplemented by a likewise fairly extensive dry-field cultivation and by a grazing-economy in the Siwalik thorn-shrubs.

4.2 *Dry-rice cultivation in arable rotations*

Only after the elimination of bounds (or at least when they are no longer closed) and especially when the terraced fields show an evident sloping surface, the final step is taken towards a real dry-rice cultivation. It is preconditioned by abundant rainfall and, in case of cultivation on permanent arable land, integrated into a suitable rotation (usually common open field rotations) with other cereal under plough-cultivation. Transplantation is substituted by broadcast seed.

The western-most occurrence of dry-rice in permanent rotation with other cereals was found in Upper Kulu and on some exposed foothills of the neighbouring Mandi region. It is important to note that it is limited to a narrow altitude zone situated between ± 2,100 m (in that region the upper limit of rice-cultivation) and downhill only to ± 1,750 m because in lower altitudes the exposure to the rainbringing winds is no longer sufficient. The outstanding feature is, that this dry-rice stands by itself as a part of the common crop rotation of the dry-fields (as described above — see 2.2 — with a bi-annual rotation of dry-rice [or alternatively maize], winter-wheat, millets, fallow). The same farmers, however, cultivate additionally a second type of irrigated riceland which was created on the alluvial fans on the lower reaches of the slopes. As described above (2.2), this extra land, which is permanently reserved for wet-rice ("Ropa"), constitutes another part of the arable cultivation of the same villages; usually, however, these plots are situated at such a distance from the permanent settlement that temporary huts ("shorn") are needed for shelter.

Thus, a highly remarkable differentiation of several types of rice-cultivation within the same village (or farm, respectively,) results from the combinations of land-use on sites with different ecological conditions: first those irrigated "ropa" lands, entirely devoted to irrigated wet-rice cultivation with transplantation (a one-field system with winter fallow). Secondly, there is the dry-rice, broadcast-sown without irrigation (on slightly sloping, coarsely terraced fields, without bunds) in rotation with other cereals.

In the recent past, the latter are gradually decreasing in importance, a process obviously caused by a strong increase of maize cultivation which promises higher yields. However, the origin of the crop rotation pattern goes apparently back to dry-rice, because of its need for a long vegetation period in these high elevations. The rice must be sown as early as March in order to sprout and grow in a soil which still preserves sufficient moisture that has been accumulated during the winter (especially from melted snow). To safeguard both, the preserving of the soil-moisture and the clearance of the fields for broadcasting the seed already in March (with additional upgrading of the soil-nutrients by the droppings of cattle which were grazing the fallow), a (winter-) season of fallow had to precede the rice-crop within that rotation. (According to NITZ, this rotation is identical to that applied in Kumaon. The sequence of the full rotation with the other crops was already mentioned in para 2.2).

The western limit of dry-rice cultivation with the climatically conditioned rotation system has been defined as located in Upper Kulu. Its position in the original common crop rotation system may give us an explanation for the marked breach in the distribution of common open field systems ("Zelgen") west of Kulu throughout the Kashmir Himalayas. To the east, from Kulu to Nepal, they dominate the entire agricultural landscape, whereas only as far west as the Hindukush once again common open field systems are to be found; these are, however, based on different crop rotations and frequently on irrigation.

In addition to the genuine dry-rice cultivation on open and slightly sloping terraces, we also find in Kulu some fields that permit rice-cultivation on impounded rainfall with the help of bunds. Thus all three types that have been dealt with so far can be found side by side. This makes it evident that there seems to be no "planned" use of different systems. In what is obviously a stage of transition, it is the farmers' experience that has caused them to disregard the ecological possibilities in order to experiment with all three variants in the respective locations.

Characteristic for this transitional region with the supposed western limit of dry-rice cultivation is the fact that in the foothills of this very area we find the most westward appearance of the Shorea Robusta ("Sal-forest") and bamboo forests as natural vegetation (SCHWEINFURTH, 1957), i.e. an increasing tropical monsoon climate. In an impressive manner the western limit of dry-rice cultivation and the climato-ecological borderline between the "Punjab Himalayas" and the "Garhwal Himalayas" as seen on the map by C. TROLL (1967) are congruent. TROLL drew this line between the Beas (Kulu) and the Sutlej. Towards the northwest the decreasing amount of moisture eliminates the possibility of dry-rice cultivation. It is towards the southeast, however, with an increase of the warm and moist climates, that it becomes more frequently a part of the common crop rotation systems.

5. Dry upland-rice in shifting cultivation (swidden agriculture) and the problem of its western limit

In the land-use systems described so far, dry-rice is cultivated by plough within regular rotation on permanent fields. In other words, it is not yet equivalent to the so-called "dry upland-rice" as has been wrongly assumed in some cases. The latter has a much higher demand for moisture and soil-nutrients. The basic difference in agricultural technique and cultural and economic forms (E. HAHN), or in the main stages of socio-economic development, respectively (H. BOBEK), lies in the fact that dry upland-rice ("hill-rice") is planted in shifting cultivation and predominantly by dibble.

Because of the high amount of moisture and nutritious substance demanded by hill-rice, allowing only a maximum of 2 - 3 harvests on each newly cleared field that is consequently abandoned for a longer period of bush-fallow (with the exception of perhaps some secondary crops), this type of rice cultivation differs widely from all other types found in the Himalayas.

Missing research data due to the inaccessibility of Sikkim, Bhutan, the "Assam-" and "Tsangpo-Himalayas" (N.E.F.A. and its adjacent areas, like Nagaland etc.) have proved to be a handicap in finding the answer to important questions such as where the western limit to genuine hill-rice, conditioned by climato-(and cultural-) geographical influences, is to be drawn.

According to descriptions given by G. GORER (1938, and other older papers like those by HOOKER, 1891, and Sir A. BAINES, 1921) the "critical point" is reached near the Lepcha settlements in Zongu in northwest Lower Sikkim. Here the most westward definite hill-rice shifting cultivation with swidden, use of dibble and inter-nutrient settlement movement has been discovered. This would reveal a plausible congruence with the vegetation and the climato-geographical structure of the Himalayas that — after the first occurrence of tropical evergreen forests—according to C. TROLL (1967), sharply divides the "Sikkim-Himalayas" (and further westward the "Assam-Himalayas") from the more subtropical parts of this mountain range.

According to GORER, irrigated rice-cultivation on permanent terraces as well as shifting rice-cultivation existed already side-by-side in 1935 in Lepcha settlements, the first type having been introduced there approximately around 1915-20. HEUBERGER (1968) has confirmed that in the meantime shifting cultivation has been completely forbidden and to a great extent substituted by permanent terraced fields (cultivated with the light Indian hook-plough).

Very little is known about the "jhuming"-systems in Bhutan. Our knowledge as to the distribution of genuine hill-rice cultivations with dibble increases as we progress eastwards from the "Assam-Himalayas". This is especially true for the tribes studied by FÜRER-HAIMENDORF (Dafla, Miri, Mishmi etc.). The contrast to the irrigated rice-cultivation of the Apa Tani with their permanent cultivation and settlement has already been shown (1.5). Among their eastern and southern neighbours (the Naga, Khasia, Garo etc.), we find a transition towards fully developed south-east Asian shifting cultivation with its numerous variants.

6. The altitude limits of rice-cultivation in the Himalayas

All available evidence shows that rice-cultivation in the Himalayas is carried out at the highest altitudes in the world. In Kashmir the highest terraced fields irrigated by small canals are found in altitudes between 7,000 - 7,300 ft. (2,150 - 2,200 m) on level slopes of the Pir Panjal (e.g. near Sangarwani, above Shupyan), in the upper basin of Lolab Valley and in the Sindh Valley which is leading to the main ridge of the Himalayas. In this way, rice is already cultivated within the coniferous zone in natural vegetation with abundant "Pinus excelsa" and "Cedrus deodora", a zone in which winter snow lies for several months. The long vegetation period is clearly shown by the fact that, whereas in the valleys the harvest is in full swing in September, the rice of the extremely high levels is still on the stalk in November.

These altitudes correspond with most of the hitherto known maxima. In uppermost Kulu irrigated rice-fields can also be found as high up as 2,050 m - 2,100 m; in eastern Nepal (Solu-Khumbu) up to ± 2,000 m, in Tangir (Karakorum) up to 1,900 m. Nagel describes the average rice-cultivation limit in Chitral at about 2,000 m, but isolated fields, with irrigated rice-fields in a fragmented pattern of holdings, are found in elevations of about 2,240 m. In Afghanistan, C. Rathjens (1974) found irrigated rice-cultivation in Paktia up to 2500 m.[1] Situated in a region of an extremely broad "mass-elevation" of the mountain ranges, the conditions correspond to those in Northern Yunnan/Southeastern Tibet. A careful check of the reports and photos by J. Rock (1947) leads to the result that 2500 m are also reached by rice-fields in several mountain basins north of Likiang and the Yülungshan. Still higher altitudes (nearly 2700 m, assumed by H. v. Wissmann [1973], based on photographs by Rock) seem to be somewhat doubtful in that region. A similar figure, however, namely 8800 feet (2681 m), has been recently confirmed for the Jumla Valley in West-Nepal by fieldwork of Barry Bishop (preliminary date: National Geographical Magazine, 1971) and, independently of this, by a communication of B. B. Shahi (Rice-Coordinator, Dept. of Agriculture, Royal Govt. of Nepal) to the International Rice Research Centre (Los Baños, Philippines). This confirms v. Fürer-Haimendorf's assumption that the world's highest rice-cultivation occurs in Jumla/West-Nepal. This figure of 8200 feet (2681 m) lies considerably above the original estimates which v. Fürer-Haimendorf had given with about 2400 m 2,500 m. Thus, the locations of the world's absolutely highest rice-cultivation seem to be in central Yunnan as well as in the Himalayas proper; from the geo-ecological point of view it is but natural that they are situated in areas where, on account of pronounced mass elevation within the mountain system, a general rise of altitude-limits is to be observed.

In the high altitudes of Jumla (West-Nepal), the rice must be soaked in the river for 3 days, dried in the sun and then allowed to sprout inside the houses before sowing (not transplantation) begins in the irrigated fields. The vegetation period lasts for 8 months, so that sowing must be finished at a time when the irrigated fields are possibly covered by a thin sheet of ice in the morning. This extremely high occurence is without doubt not regular; according to local tradition, this type of rice-cultivation was brought up from the lower regions by younger settlers. In any case it is probably the absolute altitude maximum for rice-cultivation known to this day. Characteristically it is situated in a high valley with that typical local dry-warm climate, which has already been mentioned for the inner Himalayan valleys.

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[1] This surpasses considerably the data given by Volk (1954) from Ghazin near Gadez with 2,300 m.

Apart from these isolated extreme locations it seems that a specially high altitude of rice-growing in Nepal is not the rule. In the Western Himalayas the upper limits are reached more frequently and by larger field-complexes. The altitude limits around 2,000 m in East Nepal are seldom reached and then only by smaller fields. Quite often the cultivation has just recently been taken up with new varieties of rice. A Japanese expedition to Central Nepal noted only 1,880 m as the maximum altitude for (wet-)rice cultivation (KAWAKITA, 1956). All occurences mentioned up to this point belong to the type of supplementary wet-rice cultivation in addition to other cereals; the other type, corresponding to the agricultures primarily devoted to rice-cultivation as in the Kashmir basin (where it grows within the upper altitude limits) is situated in Nepal in substantially lower regions. Further to the east it seems typical that the locations in the wide valleys of Bhutan with a dry local climate are those where once again heights of ± 2,000 m are reached. In Assam, on the other hand, apparently only a maximum of 1,800 m is reached, e.g. in the specially dry Zayul Valley.

Excepting the dry-warm valley floor "islands", a general lowering of the rice-growing altitude limit can be seen when tracing its cultivation from the northwest to the southeast in the increasingly moist tropical climate (that otherwise favours hill-rice). Few data from Southeast Asia on the upper limit of wet- and hill-rice cultivation are available, but the figures are all much lower. In Northern Thailand altitudes of 1,600 m are probably never surpassed, in Indonesia barely 1,500 m, in the Philippines 1,700 m.

H. v. WISSMANN (1960) has called attention to the influence of radiation as a possible explanation for the peculiar differences between the sunny steppe-like slopes and the shady slopes covered with tropical forests in the Himalayas. He comes to the conclusion that differences in exposure increase along with the absolute height above sea-level since absorption diminishes simultaneously and direct light increases in proportion to diffuse light. Moreover exposure differences become greater whenever water concentration in the atmosphere and cloudiness lessen. In this way an increase in differences takes place progressively from the edge of the mountains in the south and east towards the inner and western parts of the Himalayan system and Tibet. The frequency of fog and rain, increasing from northwest to southeast, in comparison to the complete lack of fog, clear distant views and deep blue skies of Tibet (v. WISSMANN, 1960) can be verified by data from Darjeeling (2,260 m) with 115 foggy days per year, a relative humidity of 94% in August and 75% in April and from Lhasa (3,680 m) with its relative humidity of 61% in August and 22% in January. The main vegetation period for rice in locations exposed to monsoonal influence is identical to the maximum values of precipitation and cloudiness (and the corresponding reduction of temperature and radiation). This means that during the same season favourable hot radiation weather is dominant in the dry-warm high basins and valleys of the western Himalayas, the Karakorum and the Hindukush while water requirements can be amply fulfilled through irrigation from the glacial catchment areas (dependent on relief conditions).

The aridity of the local climate, clear skies and intensive radiation in some deep valleys and intermontane basins of Nepal, Bhutan and Assam (climatologically explained with the help of vegetation studies by C. TROLL [1967], SCHWEINFURTH [1957, 1956] and HAFFNER [1967]) seem to be the reason for the isolated occurences of irrigated rice at high elevations in the southeast Himalayas.

The fact that it is irrigated rice that shows up at the most elevated sites, strengthens our argument, whereas dry-rice in crop rotations only scarcely approaches the maximum altitudes, and true hill-rice probably never does. Irrigation (fed by glaciers or streams on the north side of the forested slopes) makes it possible to counter-balance the effects of aridity and fully utilize the extreme radiation and warmth of the sunny high valley locations. Moreover, irrigation water standing in the fields augments the favourable local climate, tempers the cold at night through emanation and increases radiations through reflection in the daytime,

The latest scientific finding on the climate differentiations in the Himalayas, summarized by H. FLOHN (1970), confirm these attempts at explaining the unusally elevated cultivation of irrigated rice in the Himalayas. Its rise in the summer-dry inner and northwestern portions of the mountain system on the one hand, and also in those exceptional locations with favourable local climatic conditions in the dry-warm high valleys up to the tropical monsoon areas of the southeast on the other, correspond remarkably with the greater natural geographical setting. It becomes apparent that the highest rice-cultivation areas of the world are identical to the phenomena of the warm, dry multi-storied highlands next to and above the cool damp slope zone of the outer Himalayan ranges. The highlands of Tibet have the effect as an all-day source of heat throughout the summer, heated-up by a circulation of clearly recognized warm air from the high-altitude surface, but furthermore also from condensation which releases heat from convective showers. This source of warmth continues the convection process over several hours after the original heat from the soil has long since ceased (H. FLOHN, 1970).

The semi-arid "islands" of isolated summer-dry high valley basins with minimum summer rains (but abundant irrigation water from the rainy mountain flanks) play a special part in the climatic process (warm winds blowing up the valley all day long) as well as in the distribution of irrigated rice-cultivation.

The long vegetation period needed in the highest rice-growing sites that expose the rice to relatively low temperatures in spring and late autumn — and even in summer in case of strong emanation at night — must be counterbalanced by using different varieties of rice, adjusted to these conditions. On the other hand, day-light duration (photosynthesis) increases with the north latitude and in open high-mountain elevation.[1]

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[1] In the most recent representation of the physiological and ecological basis of rice-cultivation ANGLADETTE (1966) rates warmth requirements quite differently. Data concerning the necessary daily average temperatures during the vegetation period range between 20°C in Portugal and 21 - 35°C in India. Consequently, the total warmth requirement adds up to 3,000 - 3,500° Centigrades for varieties with short vegetation period and 4,400 - 6,000° Centigrades for those types with long growing periods. Temperature requirements (and, therefore, location preconditions for good yields) vary again between the vegetative and generative growing phases, (e.g. Sapporo: 43°N - 2,934°C in six growing months in contrast to Bangkok: 14°N - with 5,262°C). The optimal temperatures for irrigation water supposedly lie between 30 - 34°C; temperatures below 29 - 25°C begin to act retardingly. On the other hand, minimum irrigation temperatures ranging between 13 - 14° have been measured in Japan which can be most certainly compared to those in the Himalayas.

The important, if not decisive influence and differences in light conditions (photo-synthesis, duration of daylight) on sprouting, growth, yield, ripening period etc. are met in an optimal way by the cloudless skies and sunshine duration of the inner mountains. It has also been confirmed that the damp (tropical) regions are less favourable in com-

6.2 *Types of rice-cultivation and the climato-ecological zonation of the Himalayas*

In differentiating the regionally dominating rice-cultivation types, a significant coincidence with the climato-ecological zonation of the Himalayas (C. TROLL, 1967) becomes apparent (of course, allowing for the anthropo-geographical changes of the natural landscape, that do not permit such definite typifications or limitations like those of natural vegetation).

The first basic type of predominantly irrigated rice-cultivation is centered around the Kashmir basin, in the northwestern regions characterized by C. TROLL (1967) as the "Indus-Himalayas"; however he makes the important reservation that this only holds true for the valleys and intermontane basins to the south of the main ridge of the Himalayas (between Nanga Parbat and Nun-Kun), whereas rice-cultivation in the much dryer valleys north of that divide plays quite a different rôle (see below).

In addition to the fairly uniform climatic region of the "Kashmir type", it is necessary to consider the isolated "island-like" sections with agriculture primarily based on wet-rice cultivation, characterized by certain local climatic and relief conditions and located in all parts of the Himalayas south of the main ridge. The distribution of these sections is to a great extent identical to the narrow zone of apparently isolated islands as far east as into Sikkim which H. FLOHN characterized as a long drawn out extension of that climatic type which is normally prominent in the Hindukush, Swat-Kohistan and Kashmir, but with ouliers running parallel to the Himalayas. Isolated patches for irrigated rice-cultivation in a locally dry climate with strong radiation extend even so far to the southeast as into some valleys of the so-called "Assam-" and the "Tsangpo-Himalayas" and, moreover, into the deep dry parallel gorges of the Salween, Mekong and Yangtse Rivers.

The second area with a predominant regional rice-cultivation type was found north of that divide of the "Indus-Himalayas" along the Himalayan main ridge, in the Karakorum, but also in the drier northwestern areas (Hindukush, Afghanistan, Iran). There the dry climate demands irrigation for almost all crops. Wherever rice-cultivation is still possible, it

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parison to the infrequently overcast skies of the subtropical elevations with their higher radiation quotas. Unfortunately — like the rest of the specific literature on rice-cultivation — only meagre information is available on cultivation conditions in the Himalayas.

occurs consequently in combination with those other irrigated crops — either in patterns of fragmented holdings or in irrigated common field systems.

In accordance with the dividing line drawn by C. TROLL between the "Indus-Himalayas" and the "Punjab-Himalayas" along the Pir Panjal Ridge (east of the Nun-Kun, but then over the main ridge — "Pangi Range" — on to the "Zaskar Range") a transition towards the third section with its respective regional type is recognizable. This type is widely distributed over a large area.

The Himalayas (south of the main ridge) receive from then on (increasingly towards the south-east) such heavy rainfalls that — with the exception of the intermontane basins and the dry valleys mentioned above in which irrigated rice-cultivation has maintained its predominance — the cereals of dry-field cultivation become more and more prevalent in the agricultural landscape. Irrigated rice-cultivation is limited to smaller sections of the arable land (if necessary with temporary settlement extensions). In contrast to the previously described type these small sections often comprise the entire irrigated land and remain completely reserved for additional rice-cultivation along with other rotations.

While the "Punjab-Himalayas" still form a transition zone, in the "Garhwal-Himalayas" and in most sections of the "Sikkim-Himalayas" (both including parts of Nepal) the area of the regional type of rice-cultivation is identical to that covered by the predominant common crop rotation systems ("Zelgen") and by the occurence of dry-rice within the rotation systems.

In accordance with the continued increase of rainfall and warmth, the region of tropical rain- and mountain forests of the "Assam-Himalayas" (and parts of the "Tsangpo-Himalayas") is characterized by hill-rice in shifting cultivation. (But even here isolated intermontane basins and dry valleys facilitate the cultivation of irrigated rice in some scattered areas).

Finally, the transition stage of rice-cultivation with impounded rainfall should probably be regarded rather as a variant caused by edaphic and relief conditions, although in the northwestern Siwaliks it definitely gains importance as a regional type which corresponds to the geo-ecological conditions of that particular area.

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AMARAKĪRTI'S VYĀKHYĀLEŚA

A JAINA COMMENTARY OF THE EARLY 17TH CENTURY ON PSEUDO-KĀLIDĀSA'S ṚTUSAṂHĀRA*

By
CLAUS VOGEL (Bonn)

1. When RAJENDRALALA MITRA, relying on the materials of one HARIŚCANDRA ŚASTRI, compiled *A Catalogue of Sanskrit Manuscripts in the Library of His Highness the Mahárájá of Bikáner* (Calcutta, 1880), he described among the Jaina works, complete with beginning and end, the codex of a Ṭīkā, allegedly composed by Sūrīndra Sūri, Dhaurya, Amarakīrti Sūri, and others, on a poem concerned with the six seasons and entitled Viśeṣamahākāvya (No. 1542). The multiple authorship, which is peculiar in that the whole manuscript contains just 23 leaves with 16 lines to the page, was inferred by him — or the Śāstrī — from the final stanza obligingly recorded in full:

sūrîndra-dhauryâmarakīrti-sūribhir
vṛttau kṛtāyām Ṛtuvarṇanâbhidhe |
kāvye vasanta-ṛtu-viśeṣa-lakṣaṇaḥ
ṣaṣṭho hi sargaḥ pravaro 'jani kṣitau ||

But all who know the florid style of the tail-pieces in Jaina books will see at once that *sūrīndradhaurya* is used here only as an ornamental epithet of the proper name Amarakīrtī Sūri put in the plural of majesty, and that the verse must be rendered:

"In the Vṛtti on the Kāvya called Ṛtuvarṇana, made by Amarakīrti Sūri, the foremost of the paramount Sūris, (this) was the sixth Sarga, dealing with the excellence of the spring season (and being) the best on earth."

If the great scholar, to whom Sanskritists owe so many fundamental catalogues, had not perpetrated this blunder in an unguarded moment, and if he had not chosen the vague post-colophon title Viśeṣamahākāvyaṭīkā rather than the clear colophon title Ṛtuvarṇanakāvyavṛtti as caption, students of Indian poetry would possibly have learned much earlier of the find of a new commentary on the Ṛtusaṃhāra. Under the given circumstances, though, the manuscript passed unnoticed and was ultimately lost; for it is not included in the Kāvya section of the *Catalogue of the Anup Sanskrit Library*, prepared by C. KUNHAN RAJA and K. MADHAVA KRISHNA SARMA (Bikaner, 1944-48), and whether it may be identified with the codex discovered by S. R. BHANDARKAR in a private collection at Bikaner and referred to in his *Report of a Second Tour in Search of Sanskrit Manuscripts Made in Rajputana and Central India in* 1904-5 *and* 1905-6 (Bombay, 1907, p. 43), as suggested in the *New Catalogus Catalogorum* (vol. 1, rev. ed., Madras, 1968, p. 317 b), remains very doubtful.

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* Free English rendering of a paper read at the 18th German Oriental Conference in Lübeck on 3 October, 1972 and published under the title "Amarakīrtis Vyākhyāleśa, ein Jaina-Kommentar zum Ṛtusaṃhāra aus dem Anfang des 17. Jahrhunderts" in *Zeitschrift der Deutschen Morgenländischen Gesellschaft*, suppl. vol. 4, 1974, pp. 419-433.

2. Be that as it may, the true nature of the Viśeṣamahākāvyaṭīkā would still have been found out soon if TH. AUFRECHT had card-indexed the data in point for his *Catalogus Catalogorum* (Leipzig, 1891-1903), which he did not, however, do because of their being obviously wrong. For meanwhile another codex of our commentary had come to light somehwere in Gujarat or Rajputana; it was notified in R. G. BHANDARKAR'S *Report on the Search for Sanskrit Manuscripts in the Bombay Presidency during the Years* 1887-88, 1888-89, 1889-90, *and* 1890-91 (Bombay, 1897, No. 372) and duly registered by AUFRECHT (pt. 3, p. 16 a). This fragmentary codex of 10 leaves with 16-20 lines to the page, comprising less than half the text and now belonging to the Bhandarkar Oriental Research Institute at Poona, attracted the attention of P. K. GODE, who not only detailed it in the Kāvya section of the *Descriptive Catalogue of the Government Collections of Manuscripts Deposited at the Bhandarkar Oriental Research Institute* (vol. 13, pt. 1, Poona, 1940, No. 45), but also devoted two brief articles to the work and its author: "A Commentary on the Ṛtusaṃhāra of Kālidāsa by Amarakīrti Sūri and its Probable Date — (16th Century)" (*Calcutta Oriental Journal*, Vol. 2, 1935, pp. 234-236) and "Exact Date of Amarakīrti, the Author of a Commentary on the Ṛtusaṃhāra of Kālidāsa — A.D. 1593 [!]" (*Annals of the Bhandarkar Oriental Research Institute*, vol. 18, 1937, pp. 208-210). The second article has been reprinted in the same writer's *Studies in Indian Literary History* (vol. 1, Bombay, 1953, pp. 73-75). GODE arrived at the conclusion that Amarakīrti Sūri was a pupil of Guṇākara Sūri, that he acted as head of the Nāgapurīya Tapāgaccha on 18 September, 1592, and that consequently he was to be placed in the second half of the 16th century. These findings need to be examined.

The statement that Amarakīrti Sūri was a pupil of Guṇākara Sūri is based on the last stanza of the first canto, which says in actual fact:

> *śrī-Mānakīrti-vara-sūri-guṇâkarāṇāṃ*
> *paṭṭe 'nu vai Amarakīrti-vinirmi <tā> yām |*
> *śrīmad-Viśeṣa <ka>-mahānagha-kāvya-vṛttau*
> *sargo 'jaṇi prathama eṣa nṛpâbhiramyaḥ ||*

"In the Vṛtti on the quite faultless Śrīmad Viśeṣaka Kāvya, written by Amarakīrti on the throne indeed of the best of Sūris and mine of virtues Śrī Mānakīrti, this was the first Sarga, lovely (even) for kings."

So our scholiast succeeded his teacher Mānakīrti Sūri in the office of high priest, and GODE committed an error similar to MITRA's, regarding an ornamental epithet as a proper name (and *vice versa*).

The assertion that Amarakīrti Sūri acted as head of the Nāgapurīya Tapāgaccha on 18 September, 1592 rests on the post-script to a codex of Jinadatta's Vivekavilāsa, which GODE knew only in the garbled reading of U. S. TAUK, *A Dictionary of Jaina Biography* (pt. 1, Arrah, 1917, p. 55). HṚISHIKESHA ŚASTRI and NILAMANI CAKRAVARTTI, in *A Descriptive Catalogue of Sanskrit Manuscripts in the Library of the Calcutta Sanskrit College* (vol. 10, pt. 3, Calcutta, 1909-17, No. 162), reproduce the relevant passage as follows:

> *sambat* 1649 *varṣa bhādrapada-māse kṛṣṇa-pakṣe navamyāṃ tithau soma-dine likhito 'yaṃ granthaḥ || || śrī + + Nāgapurīya-Tapāgacchâdirāga* [read: *rāja*] *bha°* || *śrī-śrī-*3 *Harṣakīrtti sūrī ācāryyaḥ śrī-śrī-*3 *Amarakīrtti-vijaya-rājye | paṃ śrī-śrī-*3 *Rājakīrttiḥ tat-śiṣya-likhitaṃ muni-Rāmakīrttiḥ śrī-Ahipura-madhye || Akabbara rājye ||*

"In the saṃvat year 1649, in the month of Bhādrapada, in the dark half, on the ninth lunar day, a Monday, this book (was) copied. Under the triumphal reign of Bhaṭṭāraka Śrī Śrī Śrī Harṣakīrti Sūri., first lord of the Śrī (man) Nāgapurīya Tapāgaccha, and Ācārya Śrī Śrī Śrī Amarakīrti, copied by a pupil of Paṇḍita Śrī Śrī Śrī Rājakīrti: Muni Rāmakīrti, at Śrī Ahipura. Under the reign of Akabbara."

Hence there can be no talk of our author having been pontiff of the Nāgapurīya Tapāgaccha — one of the most famous Śvetāmbara orders — at that time; he did not even bear the title of Sūri yet but was still serving as an Ācārya under the primacy of Bhaṭṭāraka Harṣakīrti Sūri, with whom we shall later deal at length. It may be noted incidentally that GODE's calculation of the date is also wrong, the difference between the so-called pūrṇimānta and amānta schemes of the lunar fortnights having not been taken into consideration; its correct equivalent is 21/31 August, 1592.[1]

Despite this criticism, we are indebted to GODE for having reported the new Ṭikā to the learned public and for having determined at least roughly the time of its composition. Just a few years afterwards, S. R. SEHGAL depended on the Poona manuscript for his edition of *Kālidāsa's Ṛtusaṃhāram with commentaries of Mani Rama and Amara-kirtti Suri, introduction, line and word indices* (Lahore, 1944), a rare booklet that appeared in the *Aryan Culture Series* (vol. 2).

3. Leaving aside the scholia of the last one hundred years such as the Ṛtusaṃhāravyākhyāna of JIVANANDA VIDYASAGARA (Calcutta, ¹1872, ²1881), the Vimalaprabhā of RAMAKṚṢṆA TAPASVIN (Calcutta, 1914), and the Bālabodhinī of SETUMADHAVA DHIRENDRACARYA GAJENDRAGADAKARA (Poona, 1916), the Candrikā of MAṆIRAMA is the only traditional source of aid that has been available to readers of the Ṛtusaṃhāra so far; it was issued by the Nirṇaya Sāgara Press in Bombay no less than eight times between 1885 and 1952. But the Candrikā of MAṆIRAMA, too, is a fairly recent product, having been finished "on Sunday, the fifth bright lunar day of Māgha, in the year 1814" (*veda-candra-vasu-bhūmi-vatsare māgha-sūrya-sita-pañcamī-tithau*, col. v. 2), which corresponds to 12 February, 1758. Hence it seemed well worth the trouble to look for possible further witnesses of a commentary that was written about one and a half centuries earlier by the master of a celebrated Jaina order.

The search thereupon undertaken from the study table soon brought to light two fresh and unfragmentary codices: one in the Jain Bhaṇḍār at Ambala and the other in the Lālbhāī Dalpatbhāī Bhāratīya Saṃskṛti Vidyāmandir at Ahmedabad. The Ambala codex, mentioned by BANARSI DAS in *A Catalogue of Manuscripts in the Jain Bhaṇḍārs of the Panjab* (pt. 1, Lahore, 1939, No. 99), numbers 30 leaves with 15 lines to the page, the first and the last page being blank, and has numerous marginalia; it is dated Saturday, 18/28 May, 1616 (fol. 30 a 9):

saṃvat 1673 varṣe jyeṣṭa [!] -māse | śukla-pakṣe | dvādaśyāṃ tithau | śani-vāre | likhitêyaṃ ciraṃ naṃdatāt ||

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1. In this paper dates are given in old style when falling before the revision of the Julian calendar by Pope Gregory XIII in 1582, in new style when falling after its adoption in Great Britain and the Anglo-American colonies in 1752, and in both styles when falling in the intermediate years.

"This (Vṛtti), transcribed in the saṃvat year 1673, in the month of Jyaiṣṭha, in the bright half, on the twelfth lunar day, a Saturday, shall enjoy long (life)!"

The Ahmedabad codex, listed in PUṆYAVIJAYAJI'S *Catalogue of Sanskrit and Prakrit Manuscripts* (pt. 4, Ahmedabad, 1968, Kṣāntisūri Coll. No. 911), totals 22 leaves with 15 lines to the page, the first and the last page being blank again, and was copied by Ṛṣi KHUSYALA CANDRA at Ajmer on Sunday, 31 July, 1768 (fol. 22 a 16-17):

sa-ṭippana[!]*-to likhitam idam ṛṣi-Ṣusyāla-Caṃdreṇâjayamerau saṃvad* [*ad*]*-akṣâkṣi-vasu-vasuṃdharā-mite dvitīya-nabhasyâsita-dvitīyârkâhani prage javena pūrṇī-kṛtaṃ svāya ca ||*

"This (Kāvya as) transcribed together with its Ṭippaṇa (was) completed in a hurry and for himself by Ṛṣi KHUSYALA CANDRA at Ajayameru in the (year) reckoned as saṃvat 1825, on Sunday the second (day) of the dark (half) of the second Nabha, at dawn."

Both codices, photostats of which we got within a few weeks through the instrumentality of Prof. PRITHVI RAJ JAIN of Ambala and Dr. DALSUKH MALVANIA of Ahmedabad, are models of exactitude and calligraphy; they admit of a reliable edition, which we have now in hand and hope to publish in the not too distant future. A third codex, consisting of 24 leaves with 18 lines to the page and probably originating from the 19th century, is preserved in the Rājasthān Prācyavidyā Pratiṣṭhān at Jodhpur and described by JINAVIJAYA, *A Catalogue of Sanskrit and Prakrit Manuscripts in the Rajasthan Oriental Research Institute* (pt. 3 B, Jodhpur, 1968, No. 6266), but we have been unable yet to procure it in photostat or microfilm.

4. Owing to its age, which reaches back to Amarakīrti Sūri's lifetime, the Ambala codex is of course the most valuable find. It so happens that this codex is also the only one to retain the colophon which the authorized scribe appended to the first transcript (Jaina writers did not as a rule prepare the clean copies of their works themselves but entrusted that task to a pupil), and which we present hereunder *in extenso* because of its importance (fol. 30 a 2-9):

> *śrīman-Nāgapurīya-saṃjñika-Tapāgacchâṃbujâ 'haskarāḥ*
> *sūrîṃdrāḥ pravara-pratāpa-viditāḥ śrī-Caṃdrakīrtty-āhvayāḥ |*
> *tat-paṭṭâ 'mala-maṃḍanaṃ nija-yaśaḥ saurabhya-vibhrājitā*
> *āsan sūri-varāḥ kṣitau nuta-nṛpāḥ śrī-Mānakīrtty-āhvayaḥ || 1*

teṣāṃ sa-tīrthyāḥ pravarâ 'vadātāḥ
kīrtti-priyā bhūri-guṇâbhirāmāḥ |
śrī-Harṣakīrtty-āhvaya-sūri-mukhyā
babhūvur aṃtar-viditâgamârthāḥ || 2
paṭṭe tadīye vinayôpapannaḥ
sarvvajña-bhakto 'marakīrtti-sūriḥ |
tenêyam urvvyāṃ vihitā manojñā
vṛttiś ciraṃ syād Ṛtuvarṇṇanasya || 3
teṣām eva hi śiṣyeṇa muninā Dharmmakīrttinā |
prathamâdarśake câsyā likhanôdyamam ādadhe || 4

iti śrīman-Nāgapurīya-Tapāgacchâdhirāja-bhaṭṭāraka-śrī-Mānakīrtti-sūri-paṭṭa-sthita-bhaṭṭāraka-śrī-Amarakīrtti-sūri-viracitā Viśeṣa-mahākāvyasya vṛttiḥ saṃpūrṇṇā || śrīḥ || śrīḥ || ||

"A lotus sun of the Tapāgaccha styled Śrīman Nāgapurīya, known for his excellent splendour, (was) the paramount Sūri named Śrī Candrakīrti. A spotless ornament of his throne, glorious by itself, was the exceelent Sūri (and) praised king on earth named Śrī Mānakīrti, (who was) made to shine by his good character. [1]

"His excellent and impeccable fellow student, loved for his fame (and) pleasant through his many virtues, was the foremost Sūri named Śrī Harṣakīrti, who knew in his heart the meaning of the canon. [2]

"On his throne (was installed) Amarakīrti Sūri, (who was) possessed of morality (and) devoted to the omniscient ones. This charming Vṛtti on the Ṛtuvarṇana, produced by him, shall exist on earth for a long time! [3]

"By his pupil Muni Dharmakīrti the labour of copying was put in its very first transcript. [4]

"Thus the Vṛtti on the Viśeṣamahākāvya, composed by Bhaṭṭāraka Śrī Amarakīrti Sūri, while established on the throne of Bhaṭṭāraka Śrī Mānakīrti Sūri, overlord of the Śrīman Nāgapurīya Tapāgaccha, (is) complete, Good luck! Good luck!"

Then follows the date as given above, after which the copyist adds a final word in his own behalf (fol. 30 a 10):

yad akṣaraṃ paribhraṣṭaṃ mātrādīnaṃ [!] *ca yad bhavet |*
tat sarvvaṃ kṛpayā śodhyaṃ saṃto hi na tu vatsalāḥ || 1 ||
śubhaṃ bhavatu || śrīḥ ||

"Whatever syllable and whatever stroke etc. may have been forgotten, all that (is) to be graciously corrected; but the learned (are) not indulgent. [1] — Happiness shall be! Good luck!"

The Nāgapurīya Tapāgaccha was founded at Nāgapura — modern Nagaur in Rajasthan — 1117/18 as a collateral branch of the renowned Tapāgaccha of the Śvetāmbara Jainas, and must not be mixed up with the Pārśvaccandragaccha, which segregated from it in 1515/16 under Pārśvacandra Upādhyāya.[1] A rough outline of its history down to the sixteenth patriarch, our Candrakīrti Sūri of v. 1, is met with in the colophons which Harṣakīrti Sūri tagged on to his 1566/67 transcript of the latter's Sārasvatavyākaraṇadīpikā Subodhikā and to his own Dhātutaraṅgiṇī; they can be looked up in A. WEBER'S *Verzeichniss der Sanskṛit- und Prâkṛit-Handschriften der Königlichen Bibliothek zu Berlin* (vol. 2, pt. 1, Berlin, 1886, No. 1639), Th. AUFRECHT'S *Florentine Sanskrit Manuscripts* (Leipzig, 1892, No. 183), PUṆYAVIJAYAJI'S *Catalogue of Sanskrit and Prakrit Manuscripts* (pt. 2, Ahmedabad, 1965, Nos. 5974 & 6008), and R.C. BHANDARKAR'S *Report on the Search for Sanskrit Manuscripts in the Bombay Presidency during the Year* 1882-83 (Bombay, 1884, No. MM). The present colophon starts from the very point where those two colophons leave off. About Candrakīrti Sūri we are told in the Dhātutaraṅgiṇī (col. v. 3) that he was deeply honoured by the Mogul Emperor Islām alias Salīm Shāh, who reigned 1545 -54. When he died is not known. The seventeenth patriarch, Mānakīrti Sūri, is an almost perfect stranger to us; his name has turned up in literature only four times so far; once each in the Yogacintāmaṇi (introd. v. 1) and Bhaktāmarastavaṭīkā (col. v. 2) of his younger fellow student Harṣakīrti Sūri and twice in the Saṃbodhasaptatiṭīkā (introd. v. 2 and col. v. 1) of his pupil Amarakīrti Sūri.[2] A Kalpasūtra codex copied by him in 1564/65 when he was just an ordinary Muni is listed by JINAVIJAYA, *op. cit.* (pt. 2 A, Jodhpur, 1964; No. 1924). Not until we come to the eighteenth patriarch, Harṣakīrti Sūri, do we move on more solid ground.

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[1] Pārśvacandra's tenets have been sketched by B. C. BHANDARKAR, *Report on the Search for Sanskrit Manuscripts in the Bombay Presidency during the Year* 1883-84 (Bombay, 1887, p. 155). For the succession list of his order see J. KLATT. "The Samachari-satakam of Samayasundara and pattavalis of the Anchala-gachchha and other gachchhas" (*Indian Antiquary*, vol. 23, 1894, p. 181 f.).

[1] The Yogacintāmaṇi verse appears as I 4 in the editions of N. MUKUNDARAMA (Muṃbaī, śāka 1818) and P. ŚARMA (Amadāvād, saṃvat 1954), with the name of Mānakīrti replaced in the latter by that of Candrakīrti; it is missing in the lithographic print (Muṃbaī, 1869) and in most manuscripts. For the Bhaktāmarastavaṭīkā colophon see H. R. KAPADIA, *Descriptive Catalogue of the Government Collections of Manuscripts Deposited at the Bhandarkar Oriental Research Institute* (vol. 19, sect. 1, pt. 2, Poona, 1962, No. 380). The Saṃbodhasaptatiṭīkā was published by HIRALAL HAMSRAJ (Jamnagar, 1911).

Harṣakīrti wrote commentaries and independent treatises in such disparate fields as ceremonial lore, hymnody, gnomic poetry, metre, grammar, lexicography, medicine, and astronomy. The highlights of his career can be reconstructed with considerable precision from the final verses of his numerous books and from the tail-pieces of several old codices in the Anup Sanskrit Library at Bikaner, which chances to hold some forty manuscripts once owned by him. He did pen work as early as 1556/57 when he made a transcript of Śivāditya's Saptapadārthī (MS. 6123). He had risen in the hierarchy to the rank of Upādhyāya by 1578/79 when his pupil Vīrapāla dedicated to him a copy of Siddhasena Divākara's Nyāyāvatāravṛtti (MS. 6051).[1] He bore the title of Sūri by Friday, 23 February, 1582, on which day is dated his transcript of Makarandadāsa's Paramānandīyanāmamālā (MS. 5466); judging from his choice of words there, the primacy must still have been with Candrakīrti Sūri at that time:

vasu-bhuvana-rtu-niśāmaṇi-varṣe Harṣeṇa phālgune māsi |
pratipadi śukre vāre pūrṇêyaṃ puṇya-velāyām ||

……

Nāgapurīya-Tapogaṇa-rājāḥ śrī-Candrakīrti-sūri-varāḥ |
tac-chiṣya-Harṣakīrti-sūrīṇāṃ pustakaṃ jayati ||

"In the year 1638, in the month (of) Phālguna, on the first lunar day, a Friday, this (transcript was) completed by Harṣa at a moment of good omen . . . .

"King of the Nāgapurīya Tapogaṇa (was) the excellent Sūri Śrī Candrakīrti. The manuscript of his pupil Harṣakīrti Sūri is (to be) victorious!" — E. D. KULKARNI's edition, Poona, 1968, p. 160.

It will be remembered that by Monday, 21/31 August, 1592, he possessed the pontificate himself. His last datable work, a homonymic dictionary called Śabdānekārtha, was finished either on 21/31 January, 1608 or on 8/18 February, 1609 (depending on whether the given year is interpreted to be a current or an expired one), as follows from its colophon in A. B. KEITH's *Catalogue of the Sanskrit and Prākrit Manuscripts in the Library*

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[1] The dedication recurs in a transcript of the text (without the commentary) of this copy prepared at the instance of G. BÜHLER in 1874 and described by H. R. KAPADIA, *op. cit.*, (vol. 18, pt. 1, Poona, 1952, No. 20).

of the India Office (vol. 2. pt. 1, Oxford, 1935, No. 5175):

> *bāṇa-tarka-rasa-gau tu varṣe tapasi māsi ca |*
> *rākāyāṃ Harṣakīrty-āhva-sūriś cakre satāṃ mate ||*

"In the year 1665, however, and in the month (of) Tapas, on full-moon day, the Sūri named Harṣakīrti made (it) on the advice of the learned."

Since we have seen that a change in the patriarchate had taken place by Saturday, 18/28 May, 1616, he must have died only little later. His floruit may thus be fixed tentatively as 1535-1610.

The years 1608/09 and 1616 also mark the upper and lower limits for the installation in office of the nineteenth patriarch, Amarakīrti Sūri, and for the composition of his commentary on the Ṛtusaṃhāra, the Viśeṣamahākāvyavṛtti. Few other facts could be gleaned in his case from primary and secondary sources. PUṆYAVIJAYAJI (*op. cit.*, pt. 1, Ahmedabad, 1963, No. 195) lists an undated codex of the Ācārāṅgasūtra "caused to be copied in the Śrī Nāgapurīya Tapāgaccha by Ācārya Śrī Amarakīrti Sūri" and "copied by Muni Hāsā":

> *śrī-Nāgapurīya-Tapāgacche ācārya-śrī-Amarakīrti-sūribhir llekhitam| muni-Hāsā-likhitam ||*

JINAVIJAYA (*op. cit.*, pt. 3 B, Jodhpur, 1968, No. 7341) mentions a 1591/92 transcript of the Yogaśataka made by Amarakīrti Sūri. Mānakīrti's 1564/65 transcript of the Kalpasūtra, for which see above, is supplemented by an Avacūri said to have been copied in 1587/88 by Amarakīrti Sūri, pupil of Jñānakīrti Sūri, who would be identical with our patriarch if the reading Jñānakīrti were to prove erroneous for Mānakīrti. From the invocation at the beginning of the Ambala codex it would appear that he was still alive in 1616:

> *bhaṭṭāraka-śrī-Amarakīrtti-sūri-sad-guru-caraṇa-kamalebhyo namaḥ ||*

"Hail to the foot-lotuses of the noble teacher Bhaṭṭāraka Śrī Amarakīrti Sūri!"

If that is so, however, we can narrow down the possible time of his death to a span of just under four years. In a manuscript of Harṣakīrti's Bṛhacchāntistavavṛtti catalogued by H. R. KAPANIA (*op. cit.*, vol. 17, pt. 4, Poona, 1948, No. 1283), the copyist states at the end:

> *iti śrī-Bṛhacchāṃti-ṭīkā samāptā[ḥ] ||...saṃvat* 1676 *varṣe baiśāṣa-māse | śukla-pakṣe | dvitīyā<yā>ṃ tithau | ca<ṃ>dra-vāsare lipī-kṛtā[ḥ] || śrīman-Nāgapurīya-Tapāga<c>che | bha° śrī-śrī-Mānakīrti-sūris teṣāṃ*

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paṭṭe u° śrī-śrī-Haṃsakīrti<ḥ> | tat-śikhya-Śivarājena likhitaṁ asti[ḥ] sva-paṭhanāya | ...

"Thus the Ṭīkā on the Śrī Bṛhacchānti (stava is) complete . . . (It was) transcribed in the saṃvat year 1676, in the month of Vaiśākha, in the bright half, on the second lunar day, a Monday. In the Śrīman Nāgapurīya Tapāgaccha, (there was then) on the throne of Bhaṭṭāraka Śrī-Śrī Mānakīrti Sūri the Upādhyāya Śrī Śrī Haṃsakīrti. By his pupil Śivarāja (the manuscript) was written, for his own studies..."

The date corresponds to Monday, 24 April or 4 May, 1620. Between 18/28 May, 1616 and that day, Amarakīrti must have died and his fellow student Haṃsakīrti Upādhyāya must have taken over as pontiff before he was even a Sūri.

Apart from the commentary on the Ṛtusaṃhāra, Amarakīrti has two more commentaries to his credit: an untitled Vṛtti in Sanskrit on Ratnaśekhara's Saṃbohasattarī and a Bālabodha Vṛtti in Old Gujarati on Ratnaśekhara's Chandakosa, which his elder confrere and earlier predecessor Candrakīrti Sūri had already annotated in Sanskrit. (Ratnaśekhara Sūri was the eighth patriarch of the Nāgapurīya Tapāgaccha; he flourished under the sultanate of Fīrūz Shāh Tughluq [1351-88].)

To round off our dissertation on the colophon of the Ambala codex, it may be pointed out that its scribe, Dharmakīrti Muni, also rose to higher echelons. In a 1622/23 transcript of the Trailokyasādhana (JINAVIJAYA, *op. cit.*, pt. 2 A, Jodhpur, 1964, No. 2570), he calls himself an Upādhāya. Whether he advanced to the patriarchate, as could be expected of a pupil of Amarakīrti Sūri, remains to be investigated.

5. After this journey into some decades of Nāgapurīya Tapāgaccha history, we must turn to a question that obtrudes itself on any person reading the final portion of the Ambala codex, and that has become a matter of general interest in the light of the foregoing chronological evidence: the question as to whether the Ambala codex itself is the first transcript of our commentary. The outward circumstances seem to favour such a supposition: The manuscript does not name any other copyist, it was written during the author's lifetime as well as by one of his pupils, and it has been carefully executed. A preliminary inspection leads to the same result: The manuscript is uniform in its spelling and punctuation, and virtually free from errors; what is more, it does not exhibit the many violations of sandhi rules so characteristic of later manuscripts concerned

with exegetical works and prepared by inexperienced scribes — often novices at Sanskrit — who retain, resolve, or attempt to restore the sandhi forms according to the respective states of their knowledge.[1] There can also be no doubt that the Ambala, Ahmedabad, and Poona codices have a common origin: All three of them claim that the metre of IV 1-3 is Upendravajrā, while actually it is Upendravajrā in IV 2 but Upajati in IV 1 and 3. As text and scholia of these verses are in full harmony with each other, one might think of a mere slip on the part of the author; nevertheless an inconsistency like that makes it necessary to exercise special caution. If the question can be answered at all, either in the affirmative or in the negative, then certainly not before a critical evaluation of the entire material.

6. As regards the Ṛtuvarṇana- or Viśeṣakāvyavṛtti itself, which is entitled Vyākhyāleśa in the introduction (perhaps on the model of Harṣakīrti's Kalyāṇamandirastotraṭīkā), it does not in the least resemble its more recent counterpart, Maṇirāma's Candrikā. The main difference between the two lies in their basic structure: While Maṇirāma — like Mallinātha — arranges the individual scholia in a single period in which all glosses, paraphrases, and references are inserted as parentheses, Amarakīrti — like Vallabhadeva and the Jaina commentators — applies this method only to the principal syntactic elements, explaining the adjuncts thereafter by way of questions and answers (see W. H. MAURER, *loc. cit.*, p. 5 ff.). Another separative feature is, for instance, the number of lexica utilized by both authors: While Maṇirāma confines himself to quoting Amarasiṃha's Nāmaliṅgānuśāsana and — at one place (II 5) — Vācaspati's Śabdārṇava,[2] Amarakīrti adduces not only the Nāmaliṅgānuśāsana but also Yādavaprakāśa's Vaijayantī, Dharaṇidāsa's Anekārthasāra, and Hemacandra's Abhidhānacintāmaṇi. Further dissimilarities are traceable in the order and even in the stock of verses: While Maṇirāma omits two stanzas expounded by Amarakīrti, Amarakīrti ignores four stanzas interpreted by Maṇirāma. On the textual level, Amarakīrti offers a goodly number of new readings. The name Ṛtusaṃhāra, naturalized

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[1] Cf. W. H. MAURER, *Sugamānvayā Vṛtti, a Late Commentary in Jaina Sanskrit on Kālidāsa's Meghadūta by the Jaina Muni Sumativijaya* (vol. 1, Poona, 1965, p. 73).

[2] It is next to impossible that the Śabdārṇava was still existent in the mid-18th century. Maṇirāma must have borrowed the passage from an intermediate source, probably Mallinātha's commentary on Meghadūta I 21 or Śiśupālavadha VI 30, where it is also met with. Cf. R. BIRWÉ, "Fragments from Three Lost Kośas: I. Vācaspati's Śabdārṇava" (*Journal of the American Oriental Society*, vol. 85, 1965, No. CXIV).

by Maṇirāma, is not known to Amarakīrti, the poem being always styled Ṛtuvarṇana- or Viśeṣakāvya by him. The later designation has a story, which is told in the introduction as follows:

śrī[1]*-Kālidāsa-nāmā kaviḥ Kālikā-nāmnīṃ*[2] *devīṃ samārādhitavān | sā*[3] *pratyakṣībhūyovāca*[4] *| tuṣṭāham*[5] *| varaṃ vṛṇīṣva | tenoktam <|> vidyāṃ prayaccha | Bhagavatyâmṛtapānaṃ*[6] *kāritam || prātaḥ Sarasvatī-labdhavaraḥ san paṇḍitarājaḥ*[7] *svaśvaśura-śrī-Bhoja-rājasya pratolīdvāram āgatas tadā paṇḍitaiḥ praśnaḥ kṛtaḥ | asti kaścid*[8] *vāgviśeṣaḥ | tadā teṣaṃ vacanaṃ hṛdi nyasya svapāṇḍityajñāpanārtham ādāv asti* 1 *kaścid*[8] 2 *vāg* 3 *viśeṣa* 4 *-rūpān caturaḥ padān vidhāya Kumārasaṃbhava*[9] 1 *Meghadūta* 2 *Raghu* 3 *Viśeṣa* 4 *-namākaṃ kāvyacatuṣṭayaṃ kṛtavān | teṣu Viśeṣâbhidha-kāvyam*[10] *etad eva | aparaṃ nāma Ṛtuvarṇana-kāvyam |*[1].

"The poet named Śrī Kālidāsa propitiated the goddess named Kālikā [Durgā]. She appeared before his eyes and said, 'I (am) satisfied. Choose (yourself) a boon!' He said, 'Grant (me) wisdom!' A drink of nectar (was) caused to be made by Bhagavatī [Sarasvatī]. Next morning, having obtained the boon from Sarasvatī, he betook himself as king of the pundits to the palace door of his own father-in-law, Śrī Bhoja Rāja. Then the question (was) put (to him) by the pundits, '*asti kaścid vāgviśeṣaḥ*?' Then, having fixed their words in his mind, in order to show his own learnedness, he placed the four words — viz. 1. *asti*, 2. *kaścid*, 3. *vāc*, and 4. *viśeṣa* — at the beginning and made the four Kāvyas named 1. Kumārasaṃbhava, 2. Meghadūta, 3. Raghu (vaṃśa), and 4. Viśeṣa. Among these, the Kāvya called Viśeṣa (is) the present one; its other name (is) Ṛtuvarṇana-kāvya."

In this form, the legend of Kālidāsa's metamorphosis from fool to sage is unattested. According to Merutuṅga's Prabandhacintāmaṇi, the words *asti kaścid vāgviśeṣaḥ* were addressed to Kālidāsa by his alienated wife at the outset of their reconciliatory talk and immortalized by him in the said manner so as to commemorate the significant event.[2] At any

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1. Sigla: A_1, marginal note in Ambala MS.; Ah, Ahmedabad MS.; J, Jodhpur Ms.
   Apparatus: [1]In A_1AhJ precedes *pūrvam mūrkhatvaparipīḍitaḥ*. [2]Ah *-nāmnim.* [3]A_1AhJ supply *ca*. [4]J *-bhūya uvāca*. [5]A_1AhJ supply *vatsa*. [6]In A_1 and AhJ precede *paścāt* and *paścād*, respectively. [7]A_1 supplies *snānārthaṃ sarasīṃ gataḥ'| tatra śālakair jalpitaṃ*. [8]Ah *kaścit*. [9]Ah *-saṃbhavaḥ*. [10]Ah *Viśeṣâbhidhaṃ kāvyam*.
2. Chapter 1: in R. DINANATHA's edition (Mumbāpurī, 1888) p. 9.15-18; in C. R. TAWNEY's translation (Calcutta, 1901) p. 7.
   The same tale is spoken of in an unnumbered leaf of the T'ien-t 'ai-shan fragments. Cf.

rate, Amarakīrti's version renders it clear that the title Viśeṣakāvya must be rather old. On the other hand, since Amarakīrti too lets the Ṛtusaṃhāra open with *pracaṇḍa* and not with *viśeṣa*, it is equally clear that the ancient myth was merely used by native scholars to put the stamp of authenticity on a work often held to be spurious, and that the name at issue is nothing but a secondary coinage meaning "poem on the excellences (of the seasons)", which fits the context perfectly.

Specimen

Text and Commentary of Verses III 23 and 24
(not found in Maṇirāma's Candrikā)

karakamalamanojñāḥ kāntasaṃśaktahastā[1]
vadanavijitacandrāḥ kāścid[2] *anyās taruṇyaḥ |*
citakusumasugandhi[3] *prāviśantīha veśma*
prabalamadanahetos tyaktasaṃgītarāgāḥ || 23

[4]*atha vyākhyā*[4] *|| anyāḥ kāścit taruṇyaḥ prabalo yo 'sau madanaḥ kāmas tasya hetoḥ krīḍārtham iha śaradṛtau veśma prāviśanti | gṛhamadhye praviśantīty arthaḥ | saṃdhyāyām iti gamyam | kiṃbhūtās taruṇyaḥ | kare haste kamalaṃ manojñaṃ yāsāṃ tāḥ <|> punaḥ kiṃbhūtās taruṇyaḥ <|> kāntair bhartṛbhiḥ saha saṃśaktāḥ saṃbaddhā hastā yāsāṃ tāḥ | athavā kānteṣu saṃśaktāḥ kaṇṭhalagnā hastā yāsāṃ tāḥ | punaḥ* [5]*kimbhūtās taruṇyaḥ*[5] *| vadanena mukhena vijitaś candro yābhis tāḥ | punaḥ* [5]*kiṃbhūtās taruṇyaḥ*[5] *<|>* [6]*tyaktaḥ saṃgītarāgaḥ*[6] *saṃgītaprītir yābhis tāḥ | gītanṛtyavādyatraye prekṣaṇanimittaṃ prayukte saṃgītam ucyate | kiṃbhūtaṃ veśma | citāni puñjīkṛtāni yāni kusumāni taiḥ sugandhi surabhi*[7] *| athavā taiḥ suṣṭhu*[8] *gandho yasya tat tathā tat ||* 23

suratarasavilāsāt[1] *satsakhībhiḥ sametā*[2]
asamaśaravinodaṃ[3] *sūcayantyaḥ prakāmam |*
anupamamukharāgā rātrimadhya vinodaṃ
[4]*śaradi taruṇakāntāḥ sūcayanti pramodāt ||* 24

[5]*atha vyākhyā*[5] *|| śaradi śaradṛtau*[6] *taruṇānāṃ taruṇapuruṣāṇāṃ kāntāḥ striyo*[7] *rātrimadhye* [8]*pramodād dharṣād*[8] *vinodaṃ hāsyavilāsādikaṃ sūca-*

F. Kielhorn. "Sanskrit Manuscripts in China" (*Journal of the Royal Asiatic Society of Great Britain and Ireland*, 1894, p. 838): R. Pischel, "Neue Bruchstücke des Sanskritkanons der Buddhisten aus Idykutšari, Chinesisch-Turkestān" (*Sitzungsberichte der Königlich Preussischen Akademie der Wissenschaften, philosophisch-historische Classe*, 1904, p. 1144 f.).

yanti | kartum icchantīty arthaḥ | kiṃ kurvantyaḥ[9] *| prakāmam atiśaye-nāsamaśaraḥ*[10] *kāmas tasya vinodo gītahāsyādikas taṃ sūcayantyaḥ kurvantyaḥ*[11] *| kiṃbhūtās taruṇakāntāḥ | suratasya saṃbhogasya rasas tasya vilāsas tathā tasmāt suratakrīḍāvinodārthaṃ satsakhībhiḥ śobhana-sakhībhiḥ sametāḥ*[12] *sahitāḥ | punaḥ* [13]*kiṃbhūtās taruṇakāntāḥ*[13] *| anupamaḥ sarvotkṛṣṭo mukharāgo mukhasya raktatā*[14] *yāsāṃ tāḥ ||* 24

Sigla: A, Ambala MS.; A$_1$, marginal note in A; Ah, Ahmedabad MS.; P, Poona MS. (from III 24 d onwards, foll. 10-11 being lost). — Stops as in A, punctuation being absent in Ah and haphazard in P.

23: [1]AAh *-hastāḥ.* [2]Ah *kācid.* [3]Ah *-sugandhī.* [4]Ah *vyā°* (as throughout). [5]Ah *kiṃbhūtāḥ.* [6]Ah *tyaktasaṃgītarāgāḥ.* [7]Ah *surabhiḥ.* [8]AAh *suṣṭu.*

24: [1]Ah *suratarata-.* [2]A with /. [3]Ah *aśamasara-.* [4]P sets in with fol. 12. [5]Ah *vyā°*; P *arthaḥ* (as throughout). [6]P om. [7]AP *striyaḥ.* [8]AP *pramodāt harṣād.* [9]P *kurvatyaḥ* (cf. MAURER, Sugamānvayā Vṛtti, I, p. 18 f.). [10]P *-śara.* [11]P om. [12] Ah *sametās.* [13]P *kiṃbhūtā°.* [14]A$_1$AhP supply *dīptir vā.*

Concordance of Verses

(as found in Amarakīrti's Vyākhyāleśa, Maṇirāma's Candrikā, and A. SCHARPÉ's *Kālidāsa-Lexicon*, vol. 1, pt. 3, Brugge, 1958, pp. 173-200)

Amarakīrti	Maṇirāma	Scharpé
I 1—13	I 1—13	I 1—13
14	18	18
15—18	14—17	14—17
19	19	20
20	20	19
21—28	21—28	21—28
II 1—18	II 1—18	II 1—18
—	—	19
19—28	19—28	20—29
III 1—22	III 1—22	III 1—22
23—24	—	23—24
25—28	23—26	25—28
IV 1—9	IV 1—9	IV 1—9
—	—	9*
10—14	10—14	10—14

15	16	16
16	15	15
17—18	17—18	17—18
V 1—10	V 1—10	V 1—10
11	12	12
12	11	11
13—16	13—16	13—16
VI 1— 2	VI 1— 2	VI 1— 2
—	—	2*
3	3	3
4	6	4
5	4	5
6	5	6
7—24	7—24	7—24
—	25—27	25—27
—	28	28*
—	—	28
—	—	29ff.

SOME ASPECTS OF THE PLANKTON ECOLOGY IN THE COCHIN BACKWATER

(A South Indian Estuary)

By

STEFAN WELLERSHAUS (Bremerhaven)

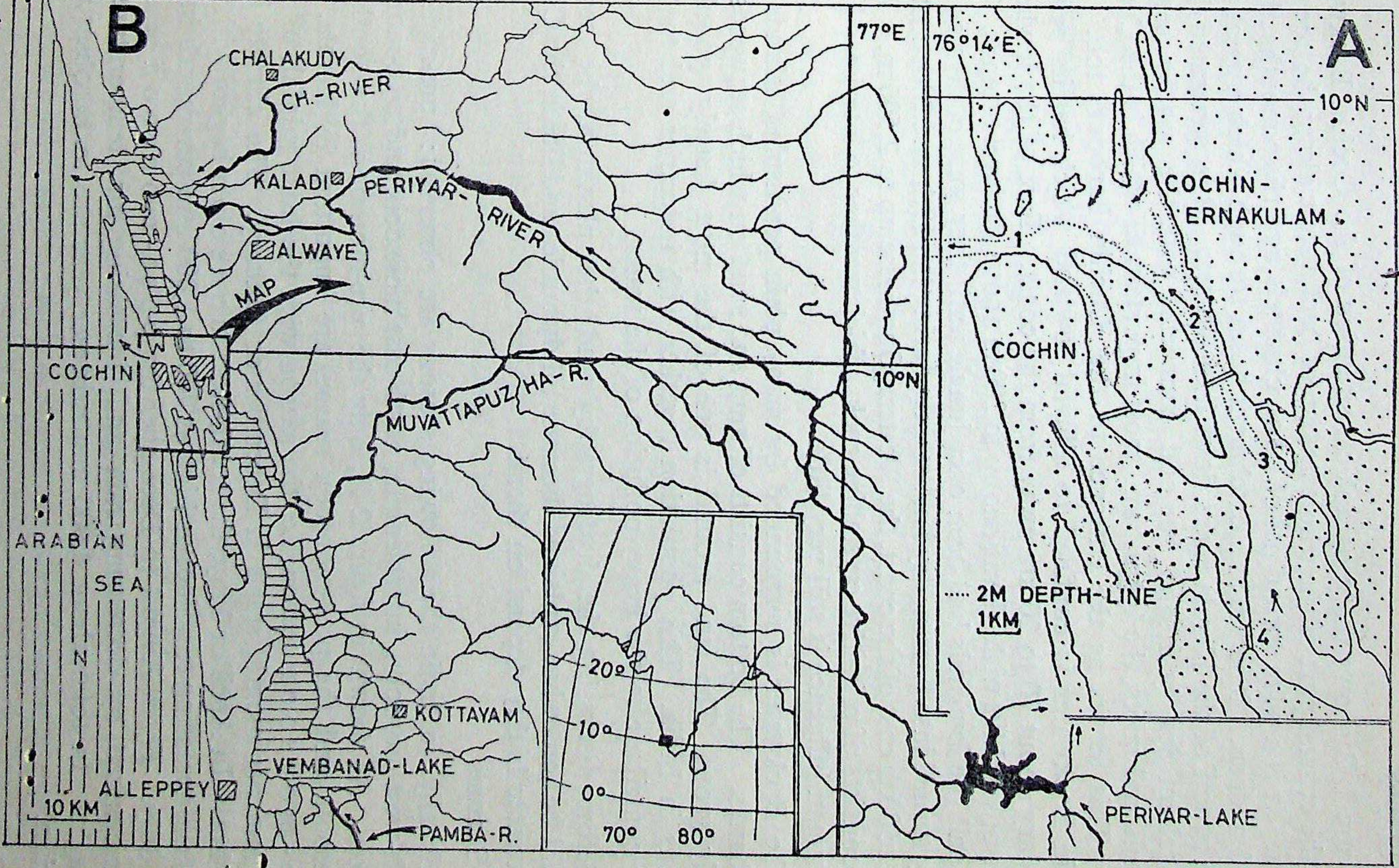
Introduction

Along many coasts of the world the sea penetrates into the land, forming lagoons or widened river mouths. Or the land proceeds towards the ocean, forming sand bars like the Lido of Venice, or a type of sand bar along the southern coast of the Baltic Sea called Nehrung. In Kerala, in South India, a sand bar harbours an extended flat land area which is torn into many islands and spits by a shallow system of lakes and channels. This is the combined estuary of the Chalakudy, the Periyar, the Muvattapuzha, and the Pamban River. During the last two decades, these backwaters have been the subject of an increasing number of scientific investigations because of their importance to irrigation, drainage, fisheries and sewage drainage near Cochin. The Cochin Backwater around and within the town of Cochin with 200,000 inhabitants forms the central part of the Kerala backwaters. This was the area where the author had the opportunity to work on plankton and study some physical properties of the water from 1964 to 1966.

Methods

Monthly collections were made between station 1 near the Cochin inlet and station 4 (see fig. 1 A) from August 1965 to July 1966. From a small boat a Ruttner water sampler was used for collecting 1.1 litre samples per haul. The plankton samples for quantitative analyses were obtained by pouring the contents of the sampler through a plankton hand net ten times. The data are kept in the archives of the National Institute of Oceanography, Biological Oceanography Division, Cochin-11, and of the "Institute für Meeresforschung", Bremerhaven, Federal Republic of Germany. The plankton samples are kept in the author's collection. For more details in methods see Qasim et al. (1969) and Wellershaus (1969, 1970, 1971a and b).

Fig. 1


B
CHALAKUDY
CH.-RIVER
KALADI
PERIYAR-RIVER
ALWAYE
MAP
COCHIN
MUVATTAPUZHA-R.
ARABIAN SEA
N
KOTTAYAM
VEMBANAD-LAKE
ALLEPPEY
10 KM
PAMBA-R.
20°
10°
0°
70°
80°
77°E
10°N
PERIYAR-LAKE
A
76°14'E
10°N
COCHIN-ERNAKULAM
COCHIN
1
2
3
4
2M DEPTH-LINE
1KM

B. Map of the Central part of Kerala with the main drainage system in the catchment area of the back-waters of Kerala. The Vembanad Lake is partly turned into rice fields.

A. Map of the Cochin Backwater, central part, stations 1 to 4 rough depth line: 2 m, arrows indicate direction of the river outflow and ebb current.

Physiography

Figure 1 B shows the geographical situation of the Cochin Backwater being the central part of the whole system of backwaters along the coast of Kerala. It is a wide spread net of lakes, channels and river mouths about 5 to 10 m deep. It serves as a catchment basin through which a great part of the runoff of the Kerala rivers flows into the sea. It is separated from the Arabian Sea by a sand bar and connected with the sea by several channels and inlets, the biggest and most important of which is the Cochin inlet. This serves as the entrance to the Cochin harbour, too. The Cochin Backwater is confined to alluvial lowland which has its eastern boundary about 10 to 20 km away from the coast. East of the lowlands, a zone of low hills with elevations up to 200 m above sea level extends. This zone and the lowlands had been once jungle until they were cultivated and partly turned into barren, dry land mainly during the 19th and 20th century. About 50 km east of the coast, the Western Ghats rise up to 2,500 m. Their base consists of primitive crystalline rocks which weather to laterite. Here, the human influence is still very little.

The Backwater is surrounded by many plain peninsulas, islands and sandbanks. The bottom consists of mud and sand on which seaweeds can hardly grow. The land around is one of the most densely populated regions in India. This population together with industries and the harbour contribute to the heavy pollution of the water.

Before discussing the hydrography and the plankton, the seasons should be somewhat explained, because all dynamics and life in the Cochin Backwater highly depend on them.

The Seasons

Usually, in India the following seasons are observed: pre-monsoon, south-west monsoon, intermediate, north-east monsoon, and post-monsoon season. As shown in figure 2 A, only the pre-monsoon, the south-west monsoon, and the post-monsoon season are important in Kerala. The pre-monsoon season, i.e. the season with the least rainfall of about 150 mm per month, starts in December or January. The climate is dry and hot. In April or May, the south-west monsoon begins with some rainfall increasing to values as high as 700 to 1,000 mm per month in June and July. From August to December the post-monsoon season is characterized by decreasing rain and increasing air temperature and drought. In total about 4,000 mm rain per year are to be observed in Cochin.

These changes in rainfall can be traced through the strength of the river discharge. Figure 2 B depicts the Periyar River outflow for 1965. The Periyar is the largest river in Kerala, flowing through the Cochin Backwater. Three fifths of its discharge flow through the Cochin inlet, whereas two fifths enter the sea through the old mouth west of Kaladi (see fig. 1). The total discharge of the Periyar measures 4.7 km³ per year, of which 3.5 km³ or 75% flow out during the monsoon season and a few weeks after.

Hydrography

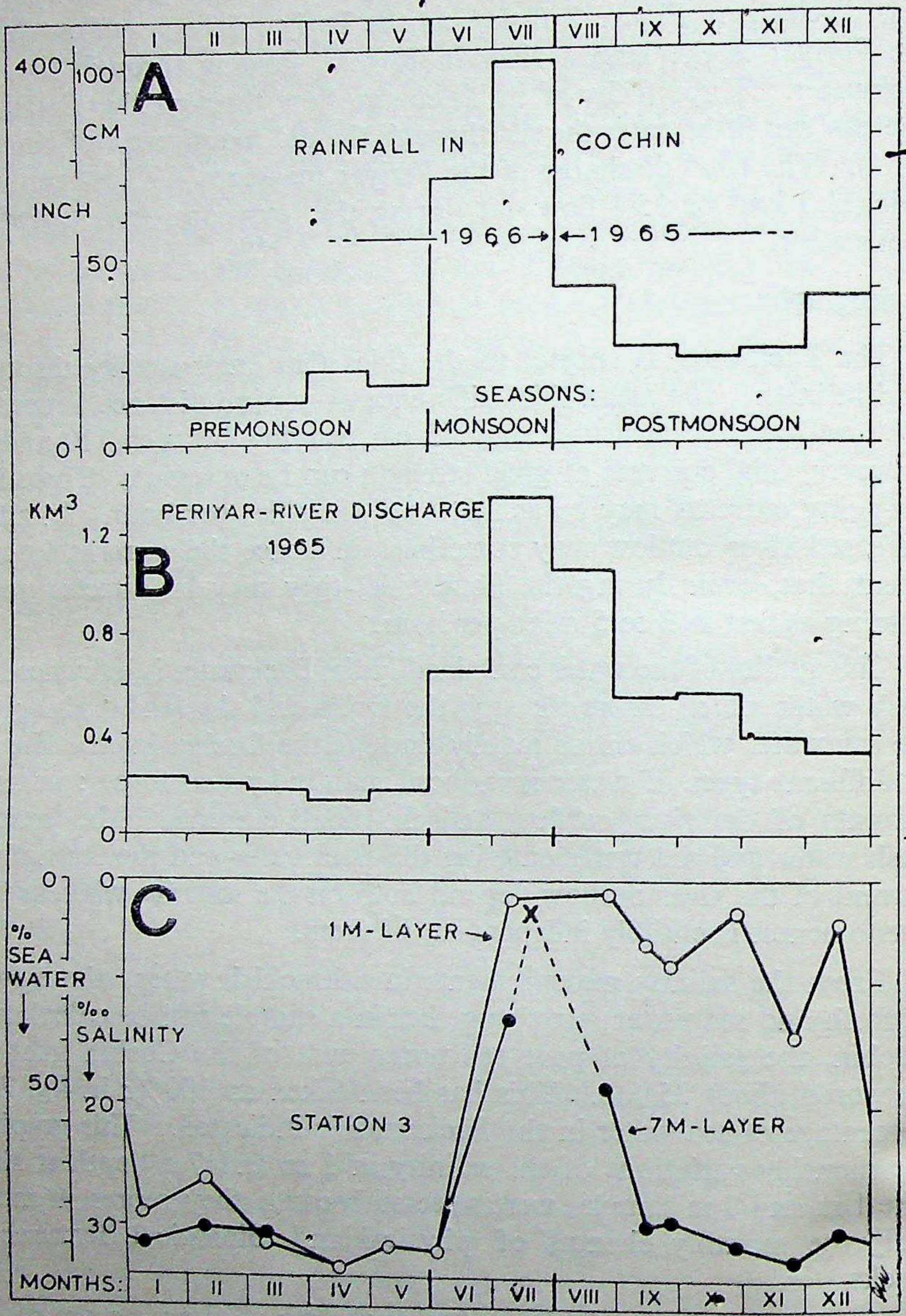
The Backwater is subject to the tides that enter mainly through the Cochin inlet. The mean tidal difference or vertical distance between high tide and low tide measures only 45 cm, varying between 110 and 5 cm. However, tidal currents of great strength can be observed. These in- and out-going currents may be as fast as 3 sea miles per hour. In addition, increased river outflow may sometimes influence the currents to such an extent that, even during the flood tide, they may be directed seawards running as fast as 3 to 5 miles per hour.

The quality of the water contained in the Backwater is influenced by the fresh water which enters through the rivers and the land drainage and by the sea water which enters mainly through the Cochin inlet. The mixing of different types of water is induced mainly by two forces: namely, the currents of the river outflow and the tidal currents. The amount of fresh water and sea water entering the Backwater and the strength of the current of the river outflow depend both on the seasons, whereas the tidal phenomenon is entirely independent of them.

From the salinity measurements in a brackish water, the percentage of fresh and sea water mixed together in a sample can be calculated. At Cochin, the salinity of pure sea water west of the Cochin inlet usually measured about 35°/oo. This has been taken as 100%; in fig. 2 C, the percentage of sea water in the Backwater is indicated. This graph shows the monthly variations of the salinity in 1 m and 7 m depth at station 3. The 1 m and 7 m samples were selected because they represent most typically the monthly changes of physical and biological features in the Backwater.

As figures 2 B and C show, during the pre-monsoon season the river outflow is very weak. It contributes only to about 5 to 20 % of the water in the Backwater, which is almost marine in character, especially in

Fig. 2



Yearly physical variations at Cochin:

A. Rainfall and Seasons 1965/66.

B. Total outflow of the Periyar River 1965.

C. Salinity in 1 m and 7 m depth at station 3, and the sea water content in % (100% = 35°/oo salinity).

May. But after the monsoon has started, great masses of fresh water flow into the Backwater and almost entirely remove the brackish or sea water. The fresh water mixed with only 10 to 20 % of sea water, fills up the Backwater from the surface to the bottom. In figure 2 C, the symbol x marks a situation which has not been measured at this station 3, but was seen elsewhere. Within a short time from about two to eight weeks later, sea water penetrates again through the inlet, as the strength of the river discharge decreases. But, since — depending on the salt content — the specific gravity or density of sea water is higher than that of fresh water, the penetration of sea water takes place only along the bottom, beneath the river water. Hence, during the post-monsoon season, two water layers or strata are found; namely, one upper layer at the surface with low salinity between 0 and 20°/oo, and another at the bottom with a higher salinity between 29 and 32°/oo. Due to the turbulence which is induced by the river and tidal currents, both water types are mixed along a boundary layer. So, for instance in October, the upper layer has only 5°/oo salinity. It mainly consists of river and land drainage water mixed with about 10 % sea water. However, the bottom layer shows a high salinity of more than 30°/oo. It mainly consists of sea water mixed with a small component of 15 % fresh water. As the land drainage and the river discharge decrease to very low values towards the end of the year, their influence on the hydrographical situation in the Backwater almost vanishes. Hence, from January onwards, sea water occupies the Backwater from the surface to the bottom, containing only a small component of less than 15% fresh water. Now, the conditions are almost marine again.

Thus, roughly, three main situations are found (see fig. 2 A and C):

1) During the pre-monsoon season, from January to May, water with a salinity of about and above 30°/oo fills up the Backwater from the surface to the bottom. Although a horizontal salinity gradient could be detected, practically no vertical gradient is observed, i.e., the salinity decreases with increasing distance from the Cochin inlet by about 0.5°/oo per 10 km.

2) During the monsoon season, for a very short time in June or July, the Backwater is almost filled up with fresh water from the surface to the bottom (x in fig. 2 C) and again no vertical salinity gradient occurs, but the salinity decreases with increasing distance from the Cochin inlet by about 0.8°/oo per 10 km.

3) From the end of the monsoon and during the post-monsoon season, from July or August to December, a strong vertical salinity gradient prevails: the Backwater is thus divided into two layers that entirely differ in their salinity. Both layers are connected by a boundary layer which contains a water type composed of both. At the surface, the horizontal salinity gradient is also very strong. It decreases by about 5 to 10 °/oo per 10 km near the Cochin inlet, but much less farther up the Backwater.

Although turbulence should always be expected, the two-layer-condition persists throughout several months, when the amount of river water lost to the brackish water by mixing is always replenished by the rivers, just as the amount of sea water is always replenished by the sea. This system is balanced by the brackish water outflow from the Backwater at surface level; the two layers are thus maintained as long as sufficient fresh water is supplied.

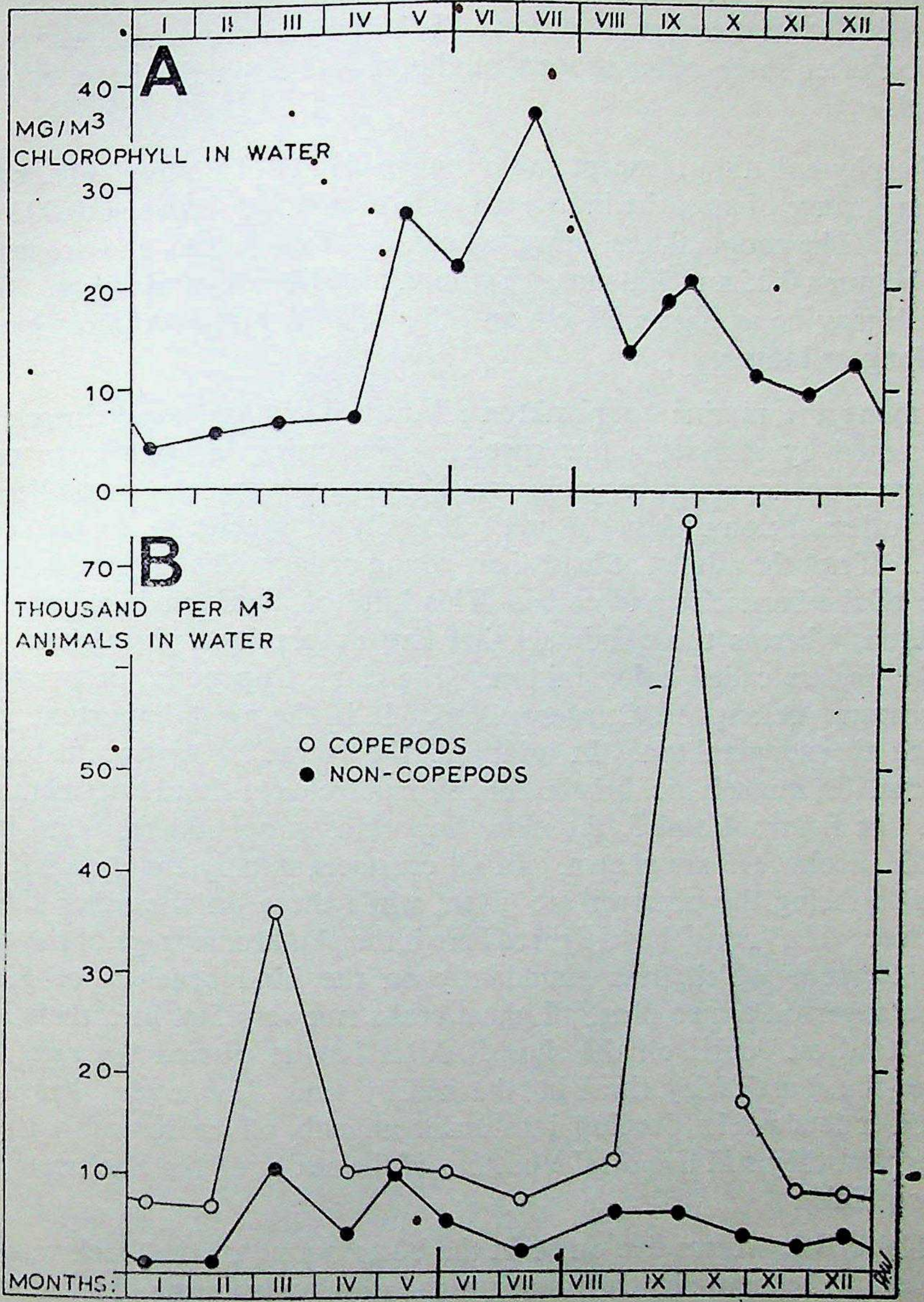
In the following it shall be attempted to explain the influence of the hydrographical conditions on the zooplankton life in the Cochin Backwater.

The Zooplankton

The Greek term plankton has been coined by the German professor Victor Hensen in 1890. Plankton is an assemblage of aquatic plants and animals that are drifted by water currents. They never live attached to any substratum, nor do they live in or at the bottom (i.e. the benthos), nor do they move about (i.e. necton), nor stay at their abode according to their own decision or instinct. The plants belonging to the plankton are called phytoplankters. They are mainly unicellular algae. Of these the naked and the armoured flagellates and the diatoms (see fig. 4) play the most important role in the sea. There and in ponds and lakes they are the main source for animal food. However, in the Cochin Backwater, though at times considerable amounts of phytoplankters appear, they do not seem to be of much importance to the feeding and the occurrence of the animal plankton. The latter group is called the zooplankton, and it seems to be an important source of food for shrimps and fish in the Backwater. Even those fish that do not feed on plankton live indirectly on it as they prey on animals that feed on plankton.

Thus, the observations on the zooplankton rather than on phytoplankton may provide us some understanding of the food chains in the

Fig. 3



Yearly biological variations at Cochin:

A. Chlorophyll content in the water representing the content of plant material.

B. Zooplankton, copepods and non-copepods, in the water. The seasons are indicated by two thick lines in the scale for months, see fig. 2A.

Backwater. Now, on which resources in the Backwater does the zooplankton live if not on the phytoplankton? I shall try to give an answer to this question after some other aspects of the zooplankton life have been explained.

The phytoplankton, except some longer chains of diatom cells, covers a limited range of size, the individual cells measuring between 0.002 and 0.5 mm. The zooplankters, however, can be much bigger, and are usually sized between 0.05 and 100 mm. Yet many species are even larger. Some jellyfish may be as big as 50 cm and the related siphonophores may be 1 m long or longer.

Among the marine zooplankton all animal groups, except insects, are represented by at least a few species. The order, Crustacea, to which shrimps, prawns, crabs, crayfish, sandhoppers, sea spiders, wood-lice and many others belong, shows a great diversity of species in its planktonic form. If not the adults, at least their young or larvae live as plankton like those of the barnacles and crabs. This kind of plankton is called meroplankton, whereas those animals that live as plankton throughout their whole life, are called holoplankton. The class, Copepoda, or oar-footed crustaceans, belongs to Crustacea, too. It is the most important group among the zooplankton. In addition, the larvae of many crustaceans, water snails, mussels and bristle worms or polychaeta should be mentioned here. In figures 4 and 5, the more important zooplankters found in the Cochin Backwater are shown. In all crustaceans only the extremities of the side facing the observer are given, while those on the other side are omitted. The "zoea" larva figured here is the planktonic stage of the ghost-crab *Ocypode* which lives abundantly on the sand beaches of Kerala. When a person approaches, all ghost crabs run very fast into their holes. They feed on debris on the shore. After having carried the eggs for a while, the females lay them in the nearby sea. The zoeae hatch and within a few weeks develop into small animals which resemble the old crabs; but they still live on the bottom of the sea or of the Backwater near the sea inlet.

The bristle worms live on or in the bottom mud of the Backwater and the sea. The larvae hatch from eggs and develop into small bristle worms after some weeks of planktonic life.

The snail and mussel larvae from the very beginning of their life carry a small house or shell; in addition, they are equipped with a row of very

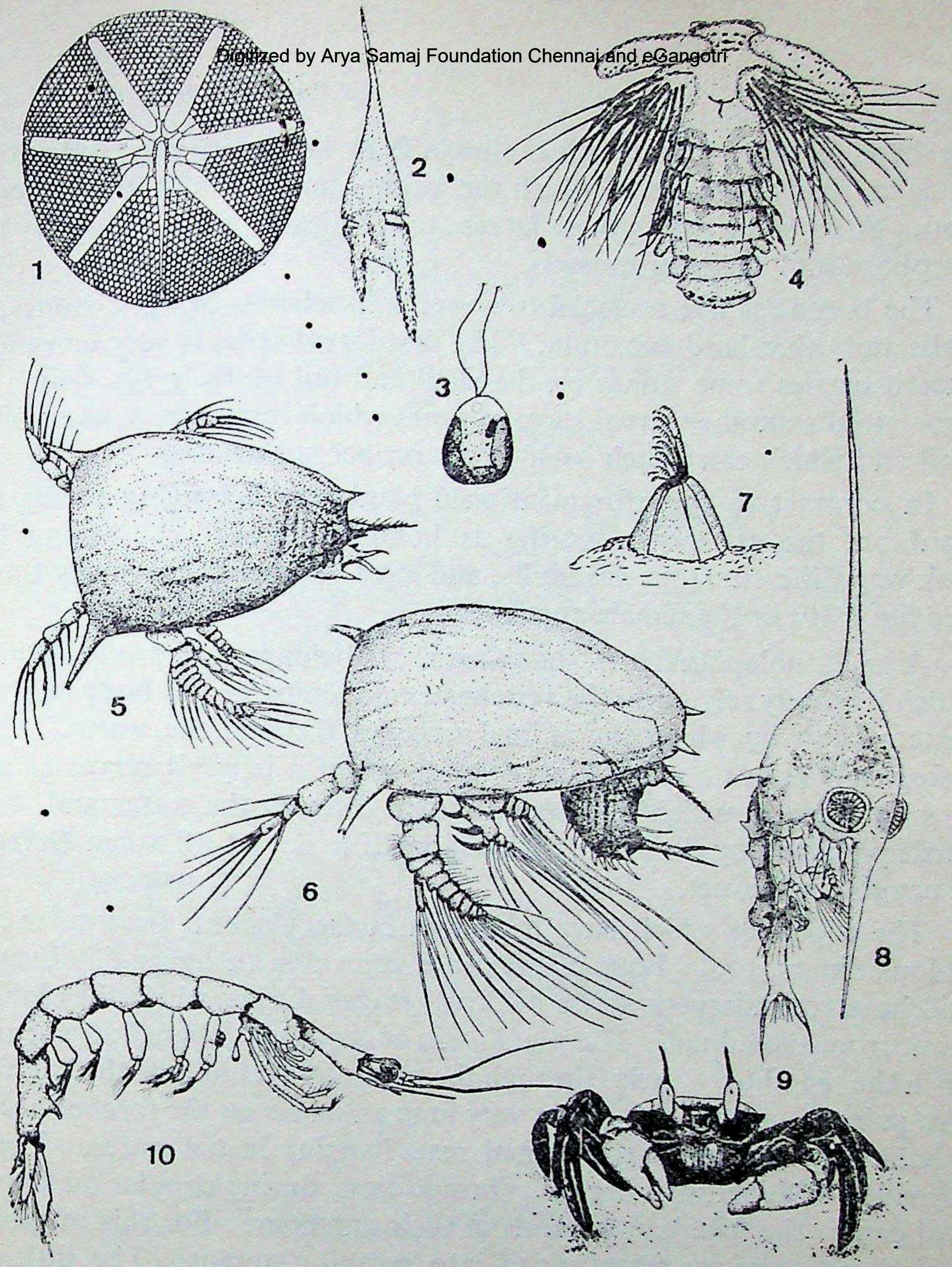


Fig. 4: Some plankters found in the Cochin Backwater:
1: the shell of the diatom *Asteromphalus heptactis*, diam. 0.1 mm (after Hustedt).
2: armoured flagellate *Ceratium fursa*, length 0.2 mm.
3: green naked flagellate, length 0.015 mm (after Pascher).
4: larva of bristle worm from above, length 0.5 mm.
5: larva of barnacle from above left side, length 0.5 mm. forehead directed to the left.
6: another larva of barnacle from above left side, length 0.5 mm.
7: adult barnacle, schematic, height of shell 15 mm.
8: zoea larva of ghost crab, total height 2 mm.
9: adult ghost crab, breadth of the shell 50 mm (after Gillet).
10: *Lucifer hanseni*, male, length from eyes to end of tail 7 mm.
In 6, 8 and 10 only those extremities seen by the observer are shown.

fine hairs or cilia. These cilia always beat synchronously and create a water current by means of which the animal moves about and collects its food. After some weeks these larvae, too, sink down and gradually metamorphose into snails or mussels.

The barnacles live attached to ships, ship wharfs, bridges, stones, crab shells and other hard substrata. The first larval stage is very conspicuous since it carries some spines on the shell and tail (dark in fig. 4/6). After some moults another larval stage appears which resembles a small mussel-shell and which can attach itself to the proper substratum.

In contrast to the aforementioned planketers belonging to the meroplankton, the crustacean *Lucifer* is holoplanktonic. The young larvae look very different from the adults, and after various stages finally the male (see fig. 4/10) or the female appears.

A small holoplankter is *Oikopleura*. It belongs to a group (Tunicata) which is closely related to the vertebrates and consists of a body and a long flattened tail by which the animal wriggles through the water. Usually *Oikopleura* builds a much bigger vessel out of a jelly. It serves as a kind of submarine in which *Oikopleura* moves through the water and catches small plankton by filtration. The submarine is cast off when *Oikopleura* is caught in the net.

The copepods which have been seen in the Cochin Backwater are all holoplankters, too. Four of them are presented in figure 5. Even they will have to undergo a series of larval stages during which they look different from the adults. The planktonic copepods— others live as parasites or in the benthos — swim through the water by paddling with their four of five pairs of oaring feet. Two very long antennas on the forehead serve as a balancing pole when the animal rests hanging in the water. They are provided with sensory organs. In addition, during copulation the males will catch the females by means of their antennas. For this purpose, the males' antennas are transformed into grasping organs. The fifth pair of legs, too, is transformed for the same purpose, and their very specific shape serves as a good basis to identify the copepod species.

Observations

As one looks into the quantitative zooplankton samples obtained from the Cochin Backwater, some interesting facts strike the eye:

a) some samples are almost deficient in any plankton whereas others contain great masses of zooplankton; and

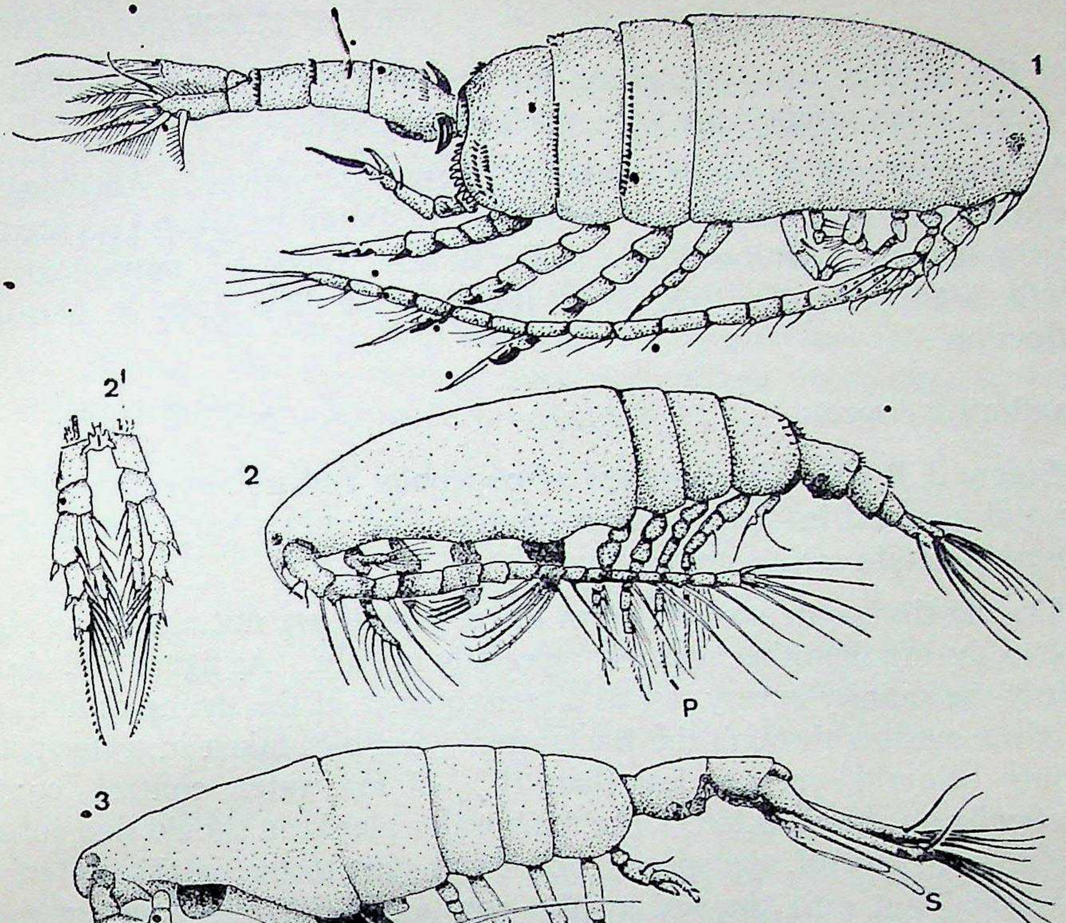


Fig. 5: Plankton copepods from the Cochin Backwater, females. Only those extremities seen by the observer are shown. Length as in *Oithona brevicornis*: ⊥ — T.

1: *Pseudodiaptomus annandalei*, length 1.3 mm.
2: *Acartia plumosa*, length 0.9 mm.
2^1 pair of swimming legs of same species (P), length 0.25 mm.
3: *Acartiella keralensis*, length 1.8 mm, S: sperm sack attached by the male.
4: *Oithona brevicornis*, length 0.65 mm.

b) the species composition of the zooplankton varies considerably, but some samples are very much like the others.

An attempt will be made to explain these observations. All plankton data given below are numbers of animals. It should be taken into account that the species mentioned here differ in size, speed of movement and growth, kind of feeding etc., and thus differ in their value in plankton production.

Quantitative Aspects

Figure 3 B gives the numbers of copepods and non-copepods per m³ of water counted in 8 samples per month. The values vary considerably; however, certain trends are obvious.

During the monsoon season the copepods are not always as abundant as during the other seasons, especially in July. As figure 2 C shows, in July the salinity is very low as a consequence of the strong rainfall and the river outflow through the Backwater. Samples taken in water with a salinity below 4°/oo, i.e., less than 10% of sea water content, contain practically no zooplankton. The fresh water plankton should find suitable conditions; however, the species which will start to live in this water, will be washed out into the sea by the constantly outgoing currents. We should remember that, a short time after the heavy monsoon rains start, the river outflow is so strong that the Backwater resembles a river, not an estuary, in that fresh water always flows out towards the sea with high speed. Only little sea water — up to 15 %—is mixed with this river water. No plankter reproduces so quickly that it could populate the Backwater within a period of a few weeks only. Thus, during the monsoon season, less zooplankton lives in the Backwater.

Sometimes, due to irregularities of the river currents and of the banks, some water masses with higher plankton content are mixed with the deficient river water. Consequently, in some cases, samples were taken with a dense copepod population consisting of two or three species. In these samples the salinity measured 5°/oo or more.

As the end of the monsoon approaches and during the post-monsoon season, the influx from the river recedes and the sea water gains new influence in the Backwater. Now, some copepod species seem to find optimal living conditions, and we observe large amounts of copepods especially in September. One sample at station 2 at 7 m depth contained almost 220,000 copepods of three main species per m^3 of water. This was the richest sample obtained during these investigations. The other zooplankters may not find these very conditions favourable enough so that they are not able to survive or — in the case of *Lucifer* and *Oikopleura* and other holoplanketers — to reproduce in this area. They may be washed into the Backwater by the sea water which penetrates along the bottom. But as soon as this water is mixed with fresh water they die as a consequence of their narrow salinity tolerance. From November onwards, the copepod numbers decrease considerably.

During the pre-monsoon season, the amount of sea water exceeds the amount of river water in all layers. Thus, the Cochin Backwater resembles a marine bight — at least in the town area. However, it will last several months, from November to March, until another maximum of copepods appears. Although from January onwards the hydrographical situation is more or less stable, this maximum does not become evident before March. It finally disappears when the brackish and sea water are pushed out by the new monsoon rain water.

Qualitative Aspects

A point which strikes the eye is the presence of two maximum occurrences of copepods. In fig. 3, this can be seen in March and September-October. Since the hydrographical conditions in both periods differ remarkably, it may be assumed that in both cases different species create the maxima.

Four different groups of copepods have been found in the Backwater; firstly, river and lake copepods; secondly, some species having their natural abode in the Backwater; thirdly, many species living in the sea near the coast and being regularly washed into the Backwater; and lastly, even more species that live in the open sea but occur occasionally in small numbers at station 1 or 2 together with the penetrating sea water.

The first and fourth group do not play an important role in the Backwater plankton community. However, group 2 and 3 are interesting from our point of view.

The most common species of group 2 is *Acartia plumosa* which is presented in figure 5. This species lives in estuaries and lagoons in tropical Africa and Asia. In the Cochin Backwater, it has its maximum abundance between 8°/oo and 25°/oo salinity. During the post-monsoon season, about 5,800 animals of this species were found per m^3 of water, during the monsoon, their number increased to 1,400/m³; but in the pre-monsoon season, they were nearly absent in this region. In general, the abundance increased with the distance from the sea inlet, as the following yearly mean values show:

station 1:	580/m³ of water,
station 2:	1160/m³,
station 3:	1234/m³,
station 4:	2570/m³.

Acartia plumosa may be the most numerous copepod in those regions that have salinities below 20°/oo. These environmental conditions might be found in different parts of the Backwater depending on the seasons: close to the sea inlet during the post-monsoon, or farther inland during the pre-monsoon period. Thus, at Cochin, *Acartia plumosa* is the most important copepod in September contributing about 1/3 in number and even more in volume to the enormous mass counted.

Acartiella keralensis is also portrayed in figure 5. So far, it has only been traced in the Cochin Backwater together with a closely related species, *Acartiella gravelyi*, which is also confined to the Backwater. The former was mainly found in water with less than 15°/oo salinity. This copepod is, thus, an inhabitant of the upper reaches of the Backwater where the favoured salinities prevail almost the whole year. During the increased monsoon river outflow, however, both species appear in the area investigated. They reveal to what extent an even distribution of plankters can be disturbed by changes in the physical circumstances and how sensitively a biological community may react to external disturbances.

Another copepod which contributes to the September maximum is *Oithona hebes*, an animal which resembles *Oithona brevicornis* (fig. 5) but lacks the horn or rostrum on its head. *Oithona hebes* seems to be a tropical estuarine and inshore species in America and Asia. It contributes up to about 2/3 to the September maximum. Although it may originally have its natural habitat in the nearby sea, it was frequently found in the Backwater. Its favoured salinity seems to be 25°/oo or more, but *Oithona hebes* is adaptable enough to survive and even reproduce in the Backwater, although at times the conditions may not be easy.

Pseudodiaptomus annandalei is likewise portrayed in figure 5. The male does not bear the spines on the tail, but its fifth legs form a very complicated tool to grasp the female for fixing its sperm sack (spermatophore) near the female's genital opening. This very conspicuous animal has been found in South Asia in fresh water, brackish water and in the sea, and it appears in my samples in small numbers only. For the time being, we do not know much about the role of this species in the plankton community.

Whereas the two latter species could not really be classified as either estuarine or marine inshore water forms, the following are obviously strangers in the Backwater. The most important one is *Paracalanus crassirostris* which is not depicted in our chart. It prefers to live in water with above 30°/oo salinity; however, it may tolerate salinities slightly below 27°/oo. Since such animals in their young state are often less tolerant against non-optimal conditions, *Paracalanus crassirostris* can probably not reproduce in the Backwater. However, it seems to inhabit in large numbers the sea close by because, at times, many females and some males appear in the Backwater. So these copepods are very common during the pre-monsoon season when marine conditions prevail in the lower reaches. It was then that about 5,000 animals per m^3 of water were counted, whereas in the post-monsoon season — when *Acartia plumosa* was abundant — only 400, and in the monsoon season only 200 per m^3 were found. Of course, as in other cases, there were always some samples completely devoid of *Paracalanus crassirostris*. In the March maximum, it contributes to about 42 % of the total number of about 20 copepod species (fig. 3). Like *Acartia plumosa*, *Paracalanus crassirostris* was found in collections from many tropical and subtropical coastal regions. For a long time, only females were known until Gurney found the male in the collections from the Bay of Suez (Egypt). The male is much smaller and looks very different, and it is so rare that one has to catch 20 females to get one male.

Oithona brevicornis is shown in figure 5. When the conditions are favourable, the long bristles on the tail carry hundreds of beautiful golden-yellow needles like the branch of a spruce and the animals look very splendid. When living in less saline water in the inner parts of the Backwater, the body grows shorter and the bristles become colourless and dull. In the March samples *Oithona brevicornis* numbered only about 4% of all copepods thus showing its relatively little importance. It is a typical inshore and coastal animal in Asian tropical waters and seems to prefer water with more than 30°/oo salt content. Many females were seen carrying egg sacks, as shown in figure 5 (right sack removed). The young animals can be identified by their horn, too.

As figure 3 shows, the copepods are more numerous than all other zooplankters between 0.1 and 3 mm length. The other zooplankters are mainly represented by the larvae of mussels, snails, bristle worms, barnacles, and the ghost crab *Ocypode*, as well as by *Oikopleura* and the bigger *Lucifer*. Some of them are presented in figure 4. Of these, the crustacean *Lucifer hanseni* and its larvae occur mainly between November and May. A similar distribution pattern is to be observed in the case of *Oikopleura* and the larvae of the bristle worms, barnacles, mussels, and snails, and the ghost crab, though their abundance differs. All of these are inshore animals that are washed into the Backwater like *Paracalanus crassirostris* and may survive and live here as long as the situation is acceptable. As a yearly mean, the different groups contribute to the total number of non-copepods as follows:

snail-larvae	40 %
barnacle-larvae	15 %
bristle worm-larvae	13 %
ghost-crab-larvae	12 %
mussel-larvae	10 %
Oikopleura	7 %
Lucifer (all stages)	3 %

Some less numerous zooplankters are omitted in this list. The composition of the larval plankton alters depending on the living conditions and the breeding period of the adults.

Conclusions

In natural environments, the density of animal planktons depends on the food available to them beside many other factors. The food consists basically of plants which are consumed either directly by plant feeders or indirectly by carnivores that feed on the plant feeders. In the open ocean, a complete, almost closed food cycle starting with green plants and ending with bacteria is normal: the bacteria decompose and mineralize all organic matter which formerly had been built up by the green plants and which then had been utilized by the animals on the way towards decomposition. In the Cochin Backwater, the situation is quite different. Surely, phytoplankton, too, develops. But the land- and river-drainage supply so much organic food that the phytoplankton is not the exclusive source of food for water-filtering feeders. The land drained food consists of particles of disintegrated and decaying plant, animal tissues, and faeces that are caught by the filter-feeding animals along with phytoplankton cells. In figure 3 A the yearly variation of the chlorophyll content in the Backwater is shown. This figure gives a rough picture of the changes of phytoplankton content. As the comparison with figure 3 B shows, only the September maximum of copepods coincides with a phytoplankton maximum; but in March, when much zooplankton was observed, only little phytoplankton was present in the Backwater. The phytoplankton maximum from May to July does not correspond to that of the zooplankton during these months. The latter, though much food is available, cannot survive due to unfavourable physical conditions. Thus, perhaps except in September and October, the phyto-and zooplankton do not completely interact in consequence of which excess phytoplankton is lost without being utilized by the zooplankton, and zooplankton feeds on sources other than indigenous phytoplankton. The Backwater plankton community, therefore, represents an open food cycle as organic matter is supplied from outside, namely, from the land and rivers, and is lost not only by mineralization and sedimentation in the Backwater but also by being washed out into the sea, at least during the rainy season.

The zooplankton discussed here is only a small fraction of the entire zooplankton beginning with small ciliates and ending with some young fish and bigger crustaceans. But since, at least, the copepods form a strong component of the whole, I hope that the figures quoted here will somehow give an impression of the dynamics of the zooplankton in the Cochin Backwater.

Only a few factors that influence the zooplankton were discussed in this paper. Since the zooplankton serves as food for many economically important fish and crustaceans and since it helps to clean the water from particulate sewage, every effort should be made not to destroy the habitat of this plankton. As has been shown above, its composition changes mainly with non-biological conditions. Man's influence, however, can be much more destructive than nature's; for instance, when new environmental conditions are created which are very different from what nature can tolerate. These may be mainly intentional and unintentional disposals of inorganic and organic pollutants and poisons into the water. Such types of strong disturbances prevent nature from maintaining life. It is not the question of disturbing the biological balance, which in any case is not more than a theoretical explanation of life's diverse phenomena; what matters is the high speed with which one extreme condition is followed by the next, so that nature cannot find enough time to respond to the changed situation. This means, nature needs sufficient time to develop new types of life which can exist under new and so far unknown conditions such as created through influx of chemical pollutants. However, man by his frequent interferences does not grant nature the time required.

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SOME OBSERVATIONS ON THE GRAMMATICAL TERMINOLOGY OF PĀṆINI

(Marginalia to Pāṇini's Aṣṭādhyāyī II)

By

ALBRECHT WEZLER (Hamburg)

1. The foundation of every new branch of knowledge, its consolidation and further development are necessarily accompanied by the introduction of an appropriate terminology. As an essential element of the scientific language it has to be constantly improved and gradually enlarged. That the majority of the scientific terminologies used in the Western world have been and are still being built up to a great extent by exploiting the vocabulary of the classical languages in various ways is, of course, due to the importance of Greek and particularly of Latin in Europe as a necessary part of higher education. For centuries they were the only languages used for theology as well as for philosophy, for the humanities and also the natural sciences. Cultures that were not exposed to such a deep and continuous influence from outside — such as ancient Greece, India and China — had to produce technical and scientific terminologies of quite a different character, a fact that offers overwhelming proof of their independence and originality. The scholars of these cultures had to lay the foundation for a particular terminology and, after this was done, to clarify the concepts and to introduce new ones by drawing exclusively on the resources of their own languages, the only languages they knew. Neither did they feel the necessity nor did they have the possibility of having recourse to the almost inexhaustible mine of words of a foreign language.

Often they were able to start from expressions already used in the non-scientific language. In such cases we should expect them to give precision to the meaning of such expressions in order to be able to formulate exact statements. Not infrequently, however, they had to invent completely new terms that did not exist in the pre-scientific thinking; in order to fulfil their task properly they had to introduce them by definitions.

2. Technical terms of both kinds constitute also the terminology found in the Aṣṭādhyāyī, the famous and unparalleled work of Pāṇini (probably not later than 500 B.C.), which "is neither a school grammar

meant for teaching a language to beginners, nor an academy grammar meant for establishing a standard of speech usage, but a theoretical explanation of the word formation of the sacred Sanskrit language".[1] Patañjali calls both kinds — and not only the second one as one might expect — *kṛtrima*, "artificially-made"[2], thus distinguishing them from the speech elements "not artificially-made" ((*akṛtrima*); thus, for example, Mahābhāṣya III 93.21: *padam itīyam bhagavataḥ kṛtrimā saṃjñā*, "*pada*', this is an artificially-made name (i.e. a technical term) of the venerable [Pāṇini, who defines it in the sūtras 1. 4.14 ff.]"; and Mahābhāṣya I 323.2 — 4: *kim idaṃ kāraka iti*? — *saṃjñānirdeśaḥ* — *kiṃ vaktavyam etat?* — *na hi.* — *katham anucyamānaṃ gaṃsyate?*— *iha hi vyākaraṇe ye vaite loke pratītapadārthakāḥ śabdās tair nirdeśāḥ kriyante paśur apatyaṃ devateti yā vaitāḥ kṛtrimāṣ ṭighughabhasaṃjñās tābhiḥ.*[3] *na cāyaṃ loke dhruvādīnāṃ pratītapadārthakaḥ śabdo na khalv api kṛtrimā saṃjñānyatrāvidhānāt; sāṃjñādhikāraś cāyaṃ tatra kim anyac chakyaṃ vijñātum anyad ataḥ saṃjñāyāḥ?* — "What is this [word] *kārake* [forming the sūtra 1.4.23] ?" — "[It is] a special designation by means of a [technical] name". — "Must this (i.e. the very fact that Pāṇini specially designates it by means of a technical name in this sūtra) be taught [authoritatively] ?" — "Not at all."— "How will it be understood if it is not taught [authoritatively] ?" — "Not at all." — "How will it be understood if it is not taught [authoritatively] ?" — "[It will be understood], for here, in grammar, [things[specially designated either through words like *paśuḥ*, *apatyam*, or *devatā* whose meaning is understood in the world (i.e. in the object language),[4] or through artificially-made names (i.e. technical terms) like *ṭi* [Pāṇ. 1.1.64], *ghu* [Pāṇ. 1.1.20], *gha* [Pāṇ. 1.1.22]' or *bha* [Pāṇ. 1.4.18 f.] etc. [whose meaning is not understood in the world]. And neither is this (i.e. *kāraka*) a word whose meaning is understood in the world (i.e. in the object language) as that of "firm" etc. (i.e. the different concepts mentioned 1.4.24 ff. in defining the *kārakas*) nor is it an artificially-made name (i.e. a technical term) as it is nowhere else [in the Aṣṭādhyāyī] taught [explicitly] (i.e. introduced by definition); and this [section] is devoted to technical terms; that being so, what else can be understood [as being meant] other than a technical term?"

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[1] P. THIEME in: India, Pakistan, Ceylon, Ed. by W. N. Brown. Philadelphia 1960, p. 72.

[2] It is also used by Kātyāyana, vārttika 2 on Pāṇ. 6.3.122 (Mahābhāṣya III 176. 9), but with regard to non-linguistic productions.

[3] Nāgojībhaṭṭa did not read *tābhiḥ*; cf. Uddyota on Māhabhāṣya l.c. (II 240 a 34): *bhādisaṃjñā ity asya tābhir eveti śeṣaḥ.*

[4] Cf. Patañjali's alternative definition of *śabda*, Mahābhāṣya I 1.11 — 12: *athavā pratītapadārthako loke dhvaniḥ śabda ity ucyate.*

Unfortunately, Pāṇini does not avoid employing such expressions from the object language, to which he has assigned a specific technical meaning, in their usual pre-scientific meaning too. Thus the "artificially-made name (i.e. the technical term) *karman*" (*kṛtrimā karmasaṃjñā*: Mahābhāṣya I 81.9), which is defined in 1.4.49: *kartur īpsitatamaṃ karma*, as "that what the agent most seeks to obtain"— that is to say, the concept of the direct object —, has this technical meaning, for instance, in Pāṇ. 2.3.2: *karmaṇi dvitīyā*, "second case-ending (i.e. an ending of the accusative) [is added to a nominal stem] if the *karman* (i.e. that what the agent most seeks to obtain) [is to be denoted]"; but it is also used as a "not artificially-made" word, meaning "action," for instance, in Pāṇ. 1.3.14: *kartari karmavyatihāre*, "[the personal endings, called *ātmanepada*, are added to a root . . . to denote] the agent in the event of reciprocity of the action".

In the same way the "artificially-made name (i.e. the technical term) *karaṇa*" (*kṛtrimā karaṇasaṃjñā*: Mahābhāṣya I 81.12), which is defined in 1.4.42: *sādhakatamaṃ karaṇam*, as "that which is the best means for accomplishing [an action] (i.e. the means of an action par excellence)" — that is to say, the concept of the instrument —, has this technical meaning, for instance, in Pāṇ. 2.3.18: *kartṛkaraṇayos tṛtīyā*, "a third [case-ending] (i.e. an ending of the instrumental) [is added to a nominal stem] if the agent [or] the *karaṇa* (i.e. the means of an action par excellence) [is to be denoted]"; but it is used as an *akṛtrima* word, meaning "doing, making, or effecting" in Pāṇ. 3.1.17: *śabdavairakalahābhrakaṇvameghebhyaḥ karaṇe*, "[the suffix *kyaṣ* (=*ya*), forming medial denominative verbs, is added to the nominal stems] *śabda-*, *vaira-*, *kalaha-*, *abhra-*, *kaṇva-* [and] *megha-*, if the effecting [*of śabda-* etc. is to be denoted]".

To give one more example: the concept of the locus, *adhikaraṇa*, another *kāraka* or "factor [that brings an action about]" — which is introduced by the definition 1.4.45: *ādhāro 'dhi-karaṇam*, "*adhikaraṇa* is a substratum" —, is met again in Pāṇ. 2.3.36: *saptamy adhikaraṇe ca*, "and a seventh [case-ending] (i.e. an ending of the locative) [is also added to a nominal stem] if the *adhikaraṇa* (i.e. the substratum of the action) [is to be denoted]"; but it is used as an *akṛtrima* word, meaning "substance, thing" in Pāṇ. 2.4.13: *vipratiṣiddhaṃ cānadhikaraṇavāci*, "and [a dvandva compound whose members] have a contrary meaning [is optionally singular] [the two members] do not denote a substance / a thing".[1]

The problems connected with this particular ambiguity of certain expressions are dealt with in detail by Kātyāyana and Patañjali on Pāṇ. 1.1.23: *bahugaṇavatuḍati saṃkhyā*, where the technical term *saṃkhyā* is introduced as the semantic equivalent of *bahu*, *gaṇa* and the words ending in the secondary suffixes *vatu*[*p*] (= *vat*) and *ḍati* (= *ati*). One of the contributors to this discussion, which starts from the demand that *saṃbhyā*, the ordinary word for "numeral", should be inserted as a part of the *definiens*, attempts to argue in favour of the ākṣepavārttika 1: *saṃkhyāsaṃjñāyāṃ saṃkhyāgrahaṇam* with the maxim *kṛtimākṛtrimayoḥ kṛtrime kāryasaṃpratyayo bhavati* (Mahābhāṣya I 80.14 — 15 and ff.; cf. also I 277.23 — 24 and 330.21), "if [an expression used by Pāṇini in his grammar may be] artificially-made (i.e. a technical term) as well as not artificially-made (i.e. belonging to the object language), the [grammatical] operation is understood to take place under the supposition that the artificially-made (i.e. the technical term) [is used]".[2] But this *nyāya* is rightly rejected, as it would lead to serious difficulties, and is replaced by the "rule of interpretation": *ubhayagatir .. iha bhavati* (Mahābhāṣya I 81.8 f.), "here (i.e. in grammar)[3] both (i.e. the technical meaning and the ordinary meaning) are apprehended", so that "(a) sometimes only the technical meaning must be understood, (b) sometimes only the ordinary meaning, (c) sometimes both are understood in the same place".[4] Accordingly, any definition of Pāṇini's which is meant to clarify the precise technical meaning assigned to an ordinary expression must be mentally qualified by the rider: "if it is being used as a technical term". With regard to the question as to which of the three possible meanings an expression actually has in a particular sūtra, "we can only have recourse to interpretation[5] that follows that which is to be characterized [by grammatical description] (i.e. the different word forms that are the object of grammar as *lakṣaṇa*)[1]", as Nāgojībhaṭṭa aptly remarks (Paribhāṣenduśekhara on paribhāṣā IX): .. *tatra kvobhayagatiḥ kvākṛtrimasyaiva kva kṛtrimasyaivety atra lakṣyānusāri vyākhyānam eva śaraṇam*). Indeed, if one takes Nāgojībhaṭṭa's advice, the disadvantage created by Pāṇini's using such ambiguous terms can be counteracted with success.

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[1] These examples have been given following Patañjali, Mahābhāṣya I 81.9 — 16. Cf. also G. Cardona. YOJ XIX (1970), p. 195 ff.

[2] Cf. Nāgojībhaṭṭa's Paribhāṣenduśekhara on paribhāṣā IX and F. Kielhorn, The Paribhāṣenduśekhara of Nāgojībhaṭṭa, Poona 1960, Pt. II, p. 45 ff.

[3] In the Paribhāṣenduśekhara *iha* is rightly explained by Nāgojībhaṭṭa by *śāstre*. The equation *iha* = *saṃkhyāpradeśe* (Uddyota, I 306 a 17 — 18) does not refer to the *iha* of the passage *ubhayagatir iha bhavati* in the Bhāṣya, but to the *iha* used by Kaiyaṭā, Pradīpa I 306 a 14: *adhikārthapratipattyarthatvād iha saṃjñākaraṇasya*.

[4] Quoted from F. Kielhorn, op. cit., p. 48, n.1.

[5] On this concept, cf. P. Thieme, Felicitation Volume, presented to S. K. Belvalkar, Benares 1957, pp. 47-62 = P. Thieme, *Kleine Schriften*, Wiesbaden 1971, pp. 596 — 611.

The indigenous interpreters of Pāṇini, by the way, failed to observe that a technical term like *saṃkhyā* is obtained by extending a concept well-known to everybody who speaks Sanskrit, whereas most of the other technical terms — except those, of course, that are freely invented and lack an ordinary precursor — have, when compared with the corresponding ordinary expressions, a much narrower content. According to frequent experience, it may be pointed out, that the extension of concepts does not give rise to misunderstandings so often as their narrowing does.

3. A technical term is called *saṃjñā* by Pāṇini himself. Although he does not state it explicitly, this is obvious from his own usage; thus from 1.4.1: *ā kaḍārād ekā saṃjñā*, "up to [the word] *kaḍāra* [in 2.2.38] one [technical] name [only may be borne by an element]", and from 8.2.2: *nalopaḥ supsvarasaṃjñātugvidhiṣu kṛti*, "the dropping of a [final] *n* [according to 8.2.7 is to be considered as not having taken place] with regard to rules [in which] .. a [technical] name [is taught] ..".

This technical sense of *saṃjñā*, however, is accompanied by a non-technical one, in a way similar we could observe with respect to terms like *karma* etc. which Pāṇini explicitly defines: thus Pāṇ. 1.1.68: *svaṃ rūpaṃ śabdasyāsabdaśaṃjñā*, "[what is] not a name for [other] speech sounds [in my grammar is] the characteristic [sound] form (i.e. the sound form proper to a word)", for by no means all of these "names for [other] speech sounds" are technical terms. The fact that *saṃjñā*, as the last member of the compound *aśabdasaṃjñā*, is used in the sense of "name" and not of "technical term", is evidenced also by 7.3.67: *vaco 'śabdasaṃjñāyām*, "[the palatal] of [the root] *vac* [is not replaced by the corresponding guttural before the suffix *ṇya* (= *ya*)], except when [the word to be formed] is a name for [other] speech sounds", where the restriction *aśabdasaṃjñāyām* is clearly meant to account for the formation of the word *vākya*, "speech, saying, or sentence", appropriately characterized as a *śabdasaṃjñā*. A similar instance, but without the privative particle, is found at 8.3.86: *abhinisaḥ stanaḥ śabdasaṃjñāyām*, "[the initial *s*] of [the root]*stan*, preceded by [the preverbs] *abhi-nis-* [is optionally replaced by *ṣ*] if [the word to be formed] is the name of [another] speech sound", the condition *śabdasaṃjñāyām* being necessary here because of the opposition *abhiniḥstano/abhiniḥṣṭāno varṇaḥ*[1] (= *visarjanīyaḥ*) to *abhiniḥṣṭanati mṛdaṅgaḥ* (Kāśikā).

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[1] Cf. Mahābhāṣya I 12.15 (vārttika 14): *lakṣyalakṣaṇe vyākaraṇame* and passim.

In those Vedic texts that are undoubtedly older than the Aṣṭadhyāyī the noun *saṃjñā* is attested to only in its original meaning "agreement, mutual understanding, or concord", e.g. ŚB 6.4.1.10: *athaine abhimṛśati, saṃjñām evābhyām etat karoti* ...;"he then touches both of them (i.e. the skin of a black antelope and the lotus-leaf spread over it) — he thereby makes concord for them (i.e. brings about concord between them)—[with the words]..." (cf. also ŚB 1.1.4.5; 1.2.1.15, 17; 6.4.1.10, 12; 7.1.1.38, 39; 8.6.1.22; TB 3.2.5.4; 3.3.6.1.). The contrary is *asaṃjñā*, "discord", met with at ŚB 4.1.5.3: *sa śāryātebhyaś cukrodha, tebhyo 'saṃjñāṃ cakāra*: pitaiva putreṇa yuyudhe *bhrātā bhrātrā*, "he [then] became angry with the youths [of the clan] of Śaryāta; he made discord for them (i.e. he sowed discord among them): father fought with son, brother with brother".

The way from *saṃjñā* meaning "agreement, mutual understanding, or concord", to *saṃjñā* being used in the sense of "name, technical name, or term" is very short; for to give a name to somebody or something means to make an agreement, to achieve a mutual consent among the members of a particular group, or to establish a convention in such a way that everybody belonging to that group will be able to use it and to understand it.

The missing link between the usage of the Brāhmaṇas and that of Pāṇini (and the later Vedāṅgas [2]) is formed by *saṃjñā* as it occurs in Pāṇ. 1.2.53: *tad aśiṣyaṃ saṃjñāpramāṇatvāt*. This is the first of — altogether — five sūtras that apparently do not go back to Pāṇini, and it is the only one of them which was already known to Patañjali (Mahābhāṣya I 229. 6-8). O. BÖTHLINGK translates it: "Dieses (nämlich Geschlecht und Zahl) braucht nicht gelehrt zu werden, da schon der Name dafür massgebend ist"; and L. Renou renders it: "Lesdits (genre et nombre en général, autrement dit leur conformité entre termes qualifiants et termes qualifiés) n'ont pas besoin d'être enseignés, parce que (la qualité de) Noms (qui affecte éventuellement les termes qualifiés) fait loi (par alle-même pour déterminer le genre et le nombre)", adding the explanation: "*aṅgāḥ* (1.2.51) est un Nom et cette qualité explique assez l'emploi du pluriel. De même, font loi par eux-mêmes les pluriels des mots *āpaḥ* 'eau' *dārāḥ* 'épouse' *gṛhāḥ* 'maison' *varsāḥ* 'saison pluvieuse' (ainsi que les genres inattendus que possède tel de ces mots)".

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[1] The Vedic texts seem to confirm only the second form.

[2] Cf. for instance, AVPariśiṣṭa 47.3.4; Bṛhaddevatā 2.134, 3.82, 5.93; Śuklayajuḥsarvānukramaṇikā 5.11 and AVPrātiśākhya 4.67.

Patañjali answers in the negative the introductory question, whether "this is not to be taught [explicitly] because the artificially made names (i.e. the technical terms) like *ṭi*, *ghu*, *gha*, *bha* etc. are authoritative" (Mahābhāṣya I 229.7: *kiṃ yā etāḥ kṛtrimāṣ ṭighughabhādisaṃjñās tatprāmāṇyād aśiṣyam*), i.e. he opposes the supposition that *saṃjñā* is used here in the sense of "technical name", but he then puts matters right by equating *saṃjñā* with *saṃjñāna* (Mahābhāṣya loc. cit.: *saṃjñānaṃ saṃjñā*), a word already attested to in the meaning of "unanimity, harmony with, concord, or consent" in the Vedic samhitās. The pronoun *tad* refers back to 1.2.51:[1] *lupi yuktavad vyaktivacane*, which has to be rendered, as H. SCHARFE has most convincingly proved:[2] "if [a suffix] is dropped by *lup* [the new word behaves] like the [primary word] that was connected [with the dropped suffix] on condition that an individual is denoted". Thus, for instance, *pañcālāḥ*, "the land of the Pañcālas" meaning only a certain part of North India, and not all the regions where Pañcālas may happen to live, behaves like *pañcālāḥ*, "the Pañcālas"; that is to say, its gender and number do not depend on a determinatum, because the dropping of the suffix *añ* (= *a*), added to the primary word according to 4.1.86 and 4.2.69, is effected by *lup* (4.2.81). Likewise, from *śirīṣaḥ*, "the acacias", one gets in accordance with 4.2.70 and 82 the word *śirīṣāḥ* as the designation of a certain "village, situated near the acacias", but not of all villages that have acacias in their vicinity.

The following sūtra, 1.2.52: *viśeṣaṇānāṃ cājāteḥ*, indicates a further point: the attributes of such words also behave as they would behave if they qualified the respective primary words, on condition that they are not generic characters.

There is every reason to believe that Patañjali's explanation of *saṃjñā* is right, not only because his assertion, that the word *saṃjñā* of this sūtra is used in none of the senses otherwise verifiable in the Aṣṭādhyāyī, agrees very well with the non-authenticity of Pāṇ. 1.2.53, but also because the meaning Patañjali assigns to it has to be regarded as a common one in view of the evidence borne by the Brāhmaṇas. If one accepts Patañjali's explanation, the words *tad aśiṣyaṃ saṃjñāpramāṇatvāt* must then be translated: "this (i.e. the fact that certain derivatives, whose suffixes have been replaced by *lup*, behave like the primary words and that, moreover, the attributes of such words behave as they would behave if they qualified the corresponding primary words) need not be taught [explicitly], because the mutual consent [among Sanskrit speakers] is the authority [for that] [i.e. because it results from the usage, which has to be considered as authoritative]".

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[1] Cf. Nāgojibhaṭṭa's Uddyota on Mahābhāṣya I 229.6 (II 65 a 9): *tat* = *yuktavadbhāvaśāstram*.

[2] KZ (= Zeitschrift für vergleichende Sprachforschung auf dem Gebiete der indogermanischen Sprachen) 79 (1965), pp. 239 — 246.

That this interpretation must be preferred to those proposed by BÖTHLINGK and RENOU is too evident to need any further justification. Nevertheless, it may be added that the objection raised against Pāṇ. 1.2.51 and 52 calls to the vaiyākaraṇa's mind passages such as Mahābhāṣya I 234.14 — 16: *kim ucyata ekaśeṣe pṛthagvibhaktyupalabdhir iti? yāvatā samayaḥ kṛto na kevalā prakṛtiḥ prayoktavyā na kevalaḥ pratyaya iti*, "Why is it taught [in vārttika 5 on Pāṇ. 1.2.64] that the case endings [will be] perceived separately when the remaining of [only] one [nominal stem out of two or more occurs]" — "[It is taught] inasmuch as an agreement has been made that neither the derivation base nor the suffix can be used separately [so that, if the remaining of only one nominal stem out of two or more occurs, the corresponding case-suffix will still be there]" (cf. also I 442.2; II 79. 5 — 7 and I 423.4; 441.14; II 418.22). This demonstrates that the indigenous grammarians knew of "conventions". Another passage would be Mahābhāṣya I 11.1 — 2: (*śabdapramāṇakā vayam; yac chabda āha tad asmākaṃ pramāṇam*, "we are guided by the word as authority: that what the word says is our authority (i.e. is authoritative for us)" (cf. Mahābhāṣya I 366.12 — 13). The vaiyākaraṇa will also be reminded of Kātyāyana's refutation of the *ekaśeṣa*-rules, 1.2.64 ff.,[1] his making use of the *anabhidhāna*-device, etc., in short, his repeatedly revealed basic conviction that grammatical description should be confined to the indispensable facts.[1] Besides, the student of Indian philosophy will remember the concept of *saṅketa*, "the convention responsible for the fixed relation between *śabda* and *artha*", and its synonym *samaya*, discussed at length in Bhartṛhari's Vākyapadīya and in the Mīmāṃsā as well as in Nyāya and Vaiśeṣika literature. But he stands in need to learn from Pāṇ. 2.1.53 — and at the same time, of course, from the semantic development of *saṃjñā* — that the realization that the language is a special form of social convention undoubtedly antedates Kātyāyana.[2]

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[1] Cf. the author, 'Paribhāṣā IV, V und XV. Untersuchungen zur Geschichte der einheimischen indischen grammatischen Scholastik'. Bad Homburg v.d.H. 1969, p. 197 f. . The discussion of Pāṇ. 1.2.64 has been translated into German and investigated by O. STRAUSS, ZDMG 81 (1927), pp. 137 — 150; it has also been analyzed by E. FRAUWALLNER, WZKSO 4 (1960), pp. 92 — 118.

Pāṇini, to return to him, uses *saṃjñā* not only to denote a "technical term" or a "name for [other] speech sounds", but often also in the sense of "individual name"; accordingly, *saṃjñā* may mean a "proper name", for instance at 3.2.14: *śami dhātoḥ saṃjñāyām*, "[the suffix *ac* (=a with the feminine *ā*) is added] to a root (i.e. to certain roots) being preceded by *śam*, if [the word to be fomed is] a name", where Patañjali (Mahābhāṣya II 100.2 ff.) gives the examples *śaṃvada-*, *śaṃbhava* - and *śaṃkara-*; or it may mean a "place name", for instance at 6.2.129: *kūlasūdasthalakarṣāḥ saṃjñāyām*, "*kūla* - etc. [as the last members of tatpuruṣa compounds have the *udātta* on the first syllable] if [the compound is] a name", which rule is illustrated in the Kāśikā by *dākṣikūla-*, *māhakikūla-*, *devasūda-*, *bhājisūda-*, *dāṇḍāyanasthalī*, *māhakisthalī-*, and *dākṣikarṣa-*, which are styled as *grāmanāmadheyas*, "names of villages"; or it may mean any other individual name. But there are several sūtras where *saṃjñā* refers to a group or class of individuals, for instance, 4.4.82: *saṃjñāyāṃ janyāḥ*, "[the suffix *yat* (= *ya*) which is semantically equivalent to *tad vahati* ('he/she/it carries it') is added] to *janī-*, if [the secondary derivative to be formed is] a name", where the restriction *saṃjñāyām* is intended to allow for the formation of *janya-* m., "friend or companion of a bridegroom". O. BÖTHLINGK, therefore, notes as the meaning of *saṃjñā* not only "nomen proprium" but also "nomen appellativum" in the glossary appended to his edition and translation of the Aṣṭādhyāyī.[3]

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[1] This does not mean that I take Kātyāna to be the author of the sūtras 1.2.53 — 57.

[2] This is, of course, not at variance with the fact that the *saṃjñās* of the object language are called "not artificially-made" (*akṛtrima*), i.e. natural, by Patañjali, just as the use of the term "natural language" in Western linguistic and logical literature does not exclude the understanding that "nature" is here not opposed to "history", but to "art".

[3] Pāṇini's usage thus differs only slightly from that of Aristotle who ranks even the adjectives and pronouns under "names", determining thereby the grammatical terminology of the West for more than two thousand years; cf. De Interpretatione 2 = 16a

Yet the statement that *saṃjñā* is used by Pāṇini in the sense of "class name" too, needs further elucidation to prevent possible confusions — such as, for instance, the assumption that the distinction between the terms *saṃjñā* and *jāti*, "genus, or generic character", consists merely in the narrowness and unambiguity of the latter, while *saṃjñā* is unequivocal only when used as the opposite of *jāti* as at 5.4.94: *ano 'śmāyaḥsarasāṃ jātisaṃjñayoḥ*. It should, for that reason, be realized that appellatives necessarily form a certain part of speech, i.e. that they are substantives. What Pāṇini wants to say when he adds *saṃjñāyām* as *samudāyopādhi*, "condition [for the application of the rule] referring to the whole [resulting from the application] (i.e. the word to be formed)", is that the respective grammatical operation only takes place if the word formed in this way is a substantive, while the fact that the thing denoted is a genus, and could correctly be called a *jāti*, remains irrelevant; thus, there is, for instance, 3.1.112: *bhṛño 'saṃjñāyām*, "[the gerundive suffix *kyap* (= *ya*) is added to the root] *bhṛ*, if [the word to be formed is] not a name", where the prohibition *asaṃjñāyām* is added because of the existence of the substantive *bhāryā-* f., "wife", = *bhṛ* + *ṇyat* (3.1.124) (cf. Mahābhāṣya II 85.12); or 3.2.99: *upasarge ca saṃjñāyām*, "and [the suffix *ḍa* (= *a* causing the elision of the final *an*) is added to the root *jan*] preceded by a preposition, if [the word to be formed is] a name", indicating according to the Kāśikā the formation of the substantive *prajā-* f., "procreation, offspring", the adjectival counterpart of which is *prajāta-*. Two more examples: 5.2.91: *sākṣād draṣṭari saṃjñāyām*, " [the suffix *ini* (= *in*, generally forming adjectives) is added] to *sākṣa-* [to denote] one who sees, if [the word to be formed is] a name", according to which rule the substantive *sakṣin-*. "eye-witness", is formed;[1] and 3.319: *akartari ca kārake saṃjñāyām*, "and [the suffix *ghañ* (=*a*) is added to a root to denote] any *kāraka* except the agent, if "[the word to be formed is] a name (i.e. a substantive)".

Sometimes Pāṇini is apparently thinking of both, individual names as well as class names, for instance at 3.2.46: *saṃjñāyāṃ bhṛtṛvṛjidhārisahita-*

19f.: "By a noun we mean a sound significant by convention, which has no reference to time, and of which no part is significant apart from the rest" (quoted from: 'The Works of Aristotle'. Translated into English under the Editorship of W. D. Ross, Vol. I, Oxford 1966.

[1] According to Patañjali, Mahābhāṣya II 389.14 — 17, the purpose of the expression *saṃjñāyām* is to exclude the two other "eye-witnesses", for instance of a legal transaction, that is to say, the wealthy who gives (*dhanika*) and the client who receives (*antevāsin*).

pidamaḥ, "[the suffix *khaṛ* (= *a*) is added to the roots] *bhṛ* etc., if [an inflected noun, denoting the direct object, forms the first member and if the compound to be formed is] a name", where the restriction *saṃjñāyām* refers to appellatives like *viśvaṃbharā*, "the allbearing" = "the earth", *vasuṃdharā*, "the wealth containing" = "the earth", and *patiṃvarā*, "[a girl] who chooses her husband herself", as well as to proper names, e.g. of a particular *sāman* (*rathaṃtara-*), or of persons (*śatruṃsaha-*, *śatruṃtapa-*, *ariṃdama-*) etc.,

The particular sense in which *saṃjñā* is used in a sūtra of Pāṇini's has to be ascertained by interpretation, that is to say, by confronting the grammatical description with the language which it describes, so far as this is possible. Applying this method it will be understood, for instance, that *asaṃjñāyām* in 3.2.180: *viprasambhyo ḍv asaṃjñāyām*, "[the suffix *ḍu* (= *a* causing the elision of the root vowel) is added to the root *bhu*] preceded by *vi-*, *pra-*, or *sam-*, if . . . .", cannot mean a class home, i.e., a substantive, because all the derivatives that are formed by affixing *ḍu* in this case (i.e. *vibhu-*, *prabhu-*, and *sambhu-*) are used not only adjectivally, but also substantively to denote a "lord or master" or else a "progenitor"; *asaṃjñāyām* must therefore be interpreted, as it is in the Kāśikā, as "if [the word to be formed be] not a proper name" and must be understood as safeguarding the proper names *vibhū-* etc., which are formed differently.

In addition to *saṃjñā*, *nāman-* n., the old Indo-European word for "name", is also met with in the Aṣṭādhyāyī. As the two terms are almost totally synonymous[1] — the only semantic difference being the fact that the sense of "technical term" is restricted to *saṃjñā* — one wonders why Pāṇini does not keep to *saṃjñā* alone. Now, it is noteworthy that *nāman*, except in those rules where it is mentioned as underlying the grammatical operation (*kāryin*), i.e. 3.4.58, 4.3.72, 6.2.187 and 6.3.85, occurs only as the last member of certain compounds, namely, *diṅnāman-*, "name of a quarter" (2.2.26), *chandonāman-*, "name of a metre" (3.5.34 and 8.3.94), *vyākhyātavyanāman-*, "name of [the topic] to be explained" (4.3.66), *manuṣyanāman-*, "name of a man" (5.3.78), *jātināman-*, "name of a genus" (5.3.81) *sīranāman-*, "name of a plough" (6.2.187), *kāranāman-*, "name of a tax" (6.3.10), *kālanāman-*, "name of a [division of] time" (6.3.17) and *tannāman-*,

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[1] Candra seems to distinguish *nāman*, "[proper] name" and *saṃjñā*, "substantive"; thus he keeps, for instance, *asaṃjñāyām* in his sūtra 1.1.123 (= Pāṇ. 3.112), but he replaces *saṃjñā* by *nāman*, for instance, 2.2.14 (= Pāṇ. 2.1.21), 1.2.30 (= Pāṇ. 3.2.46), 2.2.67 (= Pāṇ. 2.4.20).

"whose name is that" (4.2.67; cf. also *tannāmika*: 4.1.113). The difference between *saṃjñā* and *nāman*, therefore, appears to be a syntactic rather than a semantic one, but the occurence side by side of the two terms might also — and more probably — be simply due to the fact that the compounds listed above already existed in the pre-scientific language, and were taken over by Pāṇini just as they were. Anyhow, there is no reason to blame Pāṇini for unscientific inconsistency in using both terms, as nowhere does he introduce *saṃjñā* as a technical term by definition, that is to say, he does not restrict himself to using that term alone. Nevertheless, BÖTHLINGK'S subject index, in which he lists the grammatical terms found in the Aṣṭādhyāyī in the alphabetical order of the corresponding German terms, has to be corrected inasmuch as the Sanskrit equivalent of "substantive" as designation of a certain part of speech is *saṃjñā*, opposed to *guṇavacana*, "adjective", whereas *viśeṣya* and *viśeṣaṇa* are purely syntactic terms.

4. Most of the technical terms used by Pāṇini belong to the simplest type of concepts, the classificatory. Comparative concepts like *antaratama-*, "nearest neighbouring" (1.1.50), are very rare, but not a few are met with that determine the position of some elements in relation to others, like *apūrva-*, "preceded by *a* or *ā*" (8.3.17). *apara-*, "followed by *a* or *ā*" (7.4.80), *ādi-*, "initial element" (1.1.27 and passim), *anta-*, "final element" (1.1.24 and passim), *upadhā-*, "penultimate sound" (1.1.65), and *pūrvapada-*, "word that precedes in a two-membered compound" (4.1.53 etc.) etc.. The third type, that of quantitative or metric concepts, the most precise concepts available for scientific purposes, is also represented in the Aṣṭādhyāyī, where they are in fact comparatively numerous; there are, for instance, *ekāc-*, "whose vowel is one" = "consisting of a single vowel" (1.1.14 etc.), *anekāc-*, "having more than one vowel" (6.3.43, 6.4.82), *ekahal-*, "single consonant" in *ekahalādi* (6.3.59) and *ekahalmadhya-* (6.4.120), *ekāl-*, "consisting of a single sound" (1.2.41 etc.), *anekāl-*, "consisting of more than one sound" (1.1.55), *aneka-*, "two or more than two [words]" (2.2.24), *ekādeśa-*, "a single substitute [for two]" (8.2.5), *ekāntara-*, "separated by one [word]" (8.1.55), *ekavacana-*, "expressing of one" = "singular number" (1.2.61 etc.), *dvivacana-*, "dual" (1.4.102 etc.), *bahuvacana-*, "plural" (1.4.21 etc.), *dvyac-*, *tryac-*, *bahvac-*, "having two / three / many vowels" (4.1.121 etc.; 6.2.90; 2.4.66), *dvihal-*, "having two consonants" (7.4.71), *ardhahrasva-*, "half a short [vowel]" (1.2.32), *advyupasarga-*, "not preceded by two prepositions" (6.4.96), *apṛkta-*, "suffix consisting of a single sound" (1.2.41 etc.), and *saṃyoga-*,

"consonant cluster [consisting of two or more than two consonants following one after the other]" (1.1.7 etc.) etc. There remains to be mentioned a comparative concept, based on a quantitative one: *alpāctara-*, meaning "having less vowels" = "consisting of less syllables" (2.2.34).

5. Apart from metametalinguistic rules meant for establishing a fixed and distinct relation between certain technical terms and their meanings, there are other metametalinguistic rules that deal with syntactics, that is to say, with the relation of the metalinguistic signs among themselves. A very famous one is Pāṇ. 1.1.49: *ṣaṣṭhī sthāneyogā*, "the sixth [case-ending] is one whose construction is with '*sthāne*' (i.e. is to be constructed with '*sthāne*')", which prescribes the necessary addition of '*sthāne*', "in the place of, instead of", to some — not all — words ending in a genitive suffix. This syntactic metametalinguistic rule presupposes — as has been shown elsewhere in detail[1] — the construction '*sthāne* ("in the place of") with preceding genitive attribute' which is amply attested to in the pre-Pāṇinian Vedic literature; it is, in fact, nothing but a convenient abbreviation of a common construction.

The technical use of the locative to denote what follows, in accordance with 1.1.66: *tasminn iti nirdiṣṭe pūrvasya*, and of the ablative to denote what precedes, in accordance with 1.1.67: *tasmād ity uttarasya*, is elliptical too, though this is not — or at least is less clearly — betrayed by the formulation of the sūtras 1.1.66 and 67 than in the case of the peculiar use of the genitive. For instead of 'x + ending of the ablative y' = "y, when x precedes", Pāṇini could have said 'x + ending of the ablative *uttara-* y', and instead of 'x + ending of the locative y' = "y, when x follows", 'x + ending of the ablative *pūrva-* y'. Pāṇini had to assign the function of denoting what follows to a case-ending other than that of the ablative, since the ablative must be reserved to the elliptical construction meaning "y, when x precedes", because it already occurs in the unabbreviated construction of the object language. Pāṇini decided in favour of the locative, probably because this case indicates inter alia something very near — i.e. what immediately precedes is very near — and because the absolute locative denotes all kinds of circumstances under which an action can take place.

6. Some of the so called *paribhāṣā-sūtras*, i.e. sūtras of Pāṇini's that teach a "rule of interpretation", also have to do with the mutual relation

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[1] KZ 85 (1971), pp.

of the metalinguistic signs, for example: 1.3.10; *yathāsaṃkhyam anudeśaḥ samānām*, where Pāṇini states that if there are in a sūtra two equally long series of elements (as in 4.3.94: *tūdīśalāturavarmatīkucavārāḍ ḍhakchaṇ-dhañyakaḥ*, for instance), the first element of the last series (*ḍhak*) refers back to the first element of the prior series (*tūdī-*), the second (*chaṇ*) to the second (*śalātura-*), etc.; or 1.1.72: *yena vidhis tadantasya*, "a [grammatical] rule [concerns that] which ends in that [element] by which [it is occasioned[", from which sūtra alone one learns — what one could not otherwise know — that, for instance, in accordance with 3.3.56: *er ac*, the suffix *ac* is substituted not just in the place of the *i* or *ī*, but in the place of either of these two vowels as finals of a linguistic element (here, a root). The vast majority of the *paribhāṣāsūtras*, certainly, represent metatheorems intended to indicate the formation of peculiar artificial technical terms and, primarily, to regulate the application of the grammatical rules proper.

7. Among the terms applied to the different types of Sanskrit nominal compounds there are two that are undoubtedly self-explanatory: *avyayībhāva* and *dvandva*. But the first one, *avyayībhāva*, defined in 2.1.5 ff., originally denoted the process itself by which an *anavyaya*, "something not indeclinable", i.e. "something declinable", becomes an *avyaya*, "indeclinable", and not the result of that process as one should expect. The term *dvandva*, introduced at 2.2.29, a neutral substantive meaning "pair", goes back to an adverbial āmreḍita *dvam-dvam*, "in pairs";[1] originally it certainly was really apt because the most ancient dvandva-compounds do, indeed, have only two members,[2] whereas later, in addition to the two-membered dvandvas which still occur, such as the numerous *samāhāra-dvandvas* etc., copulative compounds of more than two members appear too.

Three very peculiar terms are *tatpuruṣa* (2.1.22), *dvigu* (2.1.52) and *bahuvrīhi* (2.2.23); they are themselves compounds of exactly those types they are assigned to, that is to say, they are not intended to characterize these types of compounds in some way or other, but are arbitrarily choosen to name the classes they appertain to. Linguistically this can be compared — if at all to anything, then — to the use of proper names like Maecenas, Casanova, Don Juan etc. as designation of other persons who possess — at least to some extent — those qualities for which their historical predecessors were famous and which are still associated with their names; for in order to become technical terms, the compounds *tatpuruṣa-*, "the servant of him", *dvigu-*, "bought for two cows", and *bahuvrīhi-*, "possessing much rice", first had to be turned into 'proper' names referring to themselves, i.e. had to be used autonymously. Only then could they be applied to the respective classes of compounds, each of which has a characteristic property in common with one of them, namely the corresponding syntactic and semantic structure. The compounds *tatpuruṣa-* etc., were, of course, not necessarily the very first ones whose structure was analyzed and which were, consequently, remembered whenever the same structure was met with in a compound. They may well have originated in an elementary grammar school where the different compounds were to be understood as such in their structure and attributed by the pupil to different groups, each of which was headed by a perfect example in current use, a *mūrdhābhiṣikta udāharaṇa.* Like the other technical names coined by the Indian grammarians to denote the different types of compounds, *tatpuruṣa*, *dvigu* and *bahuvrīhi* were also accepted by the Western linguists and incorporated into their own grammatical terminology, — in addition, they gave rise here and there to the custom observable in linguistic literature of naming classes of compounds after a typical and easily remembered example.

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[1] Cf. J. Wackernagel, Altindische Grammatik II, 1, p. 29.

[2] Cf. J. Wackernagel, op. cit., p. 150.

The original meaning of the last of these terms, *karmadhāraya* (1.2.42), was discussed several times.[1] But so far no satisfactory solution has been proposed: it still remains unknown why the karmadhāraya compounds were given that name. Even the latest explanation, offered by F. EDGERTON[2] is not convincing; he suggests that *karmadhāraya-* means "[a tatpuruṣa compound] which maintains (= does not change) "the construction or case-meaning [of its parts]". But (a) it is rather unlikely that *dhāraya-* actually was used to denote the lack of divergence in case between the two members of a karmadhāraya since this would imply that a construction of two nouns in apposition would have been considered something more original than any different syntactic construction; (b) there is still a big difference between the use of *karman* in the sense of "action" or — not mentioned by EDGERTON — of "denoting the action of", amounting to "meaning", in the Nirukta (cf. 2.2.: . . *daṇḍo dadater dhārayatikarmaṇaḥ* . . , and passim), and *karman* allegedly used in the sense of "construction" or "case-meaning"; and (c) the term *karmapravacanīya-* cannot be taken as precedent as it is not itself quite clear either.

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[1] Cf. K. C. CHATTERJI,, Technical Terms and Technique of Sanskrit Grammar, Calcutta 1964, p. 353 f., and F. EDGERTON, JAOS 72 (1952), p. 80 f.,

[2] Loc. Cit..

I cannot claim, for my part, to have solved the problem. However, the question may be permissible whether the failure of all attempts up to now to explain the term *karmadhāraya* is due to the fact that the assumption that it is a common term, i.e. a term characterizing a certain class of compounds according to its pecularities, though seemingly obvious, is nevertheless wrong; should the solution not rather be looked for in quite another direction, that is to say, whether it may not also be a name word like *tatpuruṣa* etc.[1] In any case, it will be necessary to conduct a thorough investigation into the different senses in which *karman* and *dhāraya* are used in the pre-Pāṇinian texts.

8. In a verse found in the Prakriyāsarvasva of Nārāyaṇa Bhaṭṭa[2] the term *tatpuruṣa* is compared to the name given to the primary suffixes, *kṛt*:

syāt tasya puruṣas tatpuruṣaḥ ṣaṣṭhīsamāsataḥ |
tena tajjñātijāḥ sarve kṛdvat tatpuruṣā matāḥ ||

"*tasya puruṣaḥ* would become *tatpuruṣaḥ* because [it is] a compound [whose first member] ends in a sixth (i.e. genitive) [ending]; thus all its relatives are regarded as *tatpuruṣas*, just as [all primary suffixes are regarded as] *kṛt*[s]."

At first sight, this comparison seems to be convincing, but in reality it is not, because — unlike the word *tatpuruṣa-*, which is itself a tatpuruṣa compound — *kṛt* is not a kṛt suffix; it is originally nothing more than a word element ending in a kṛt suffix, i.e. formed by adding the zero suffix *kvip* to the root *kṛ* as the last member of an upapada-compound in accordance with 3.2.89, before which (in accordance with 6.1.71) the augment *t* is inserted; it became a separate word, meaning "who / what does, makes, or produces", by means of a process of abstraction, just as from the terms

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[1] This possibility has already been considered by K. C. CHATTERJI, but his suggestion op. cit, p. 354) that *karmadhāraya-* means "maker and maintainer" cannot be accepted either: a karmadhāraya compound consisting of two substantives should express either a comparison ("a *karman* like a *dhāraya*"), a *rūpaka* ("a *dhāraya* who in reality is a *karman*"), or the possession of two natures ("somebody who is at the same time a *karman* and a *dhāraya*), and the word *karmán* m., "maker", is apparently not attested to anywhere.

[2] Quoted by K. C. CHATTERJI, op. cit., p. 352.

ekavacana, *dvivacana* and *bahuvacana*, meaning originally “the expressing of one / two / many”, later on the technical term *vacana*, “number”, was abstracted. The primary suffixes, therefore, are called *kṛts*, first of all, because they “produce” derivatives from roots. The fact, however, that *kṛt* as a technical term is itself an example of a primary formation and has a meaning that coincides with the main function of all primary suffixes — to denote the agent in accordance with 3.4.67 — cannot pass for a mere accident. In addition to the wish to distinguish the primary from the secondary suffixes, which likewise “produce” words, there must have been a particular appeal in these additional properties of the name *kṛt*. Its analogy to the term *tatpuruṣa* is thus far from being close or even striking, and it becomes even more irrelevant since the use of the terms *tatpuruṣa* etc. is apparently simply accounted for by the fact that they are easily remembered examples of certain types of compounds. The introduction of the term *kṛt* which, in addition to its appellative meaning, is related to the class of suffixes in a twofold way must, on the other hand, have quite different motives.

This highly probable assumption is further corroborated by the existence of certain other technical terms which show the same peculiarities. The terms with which *kṛt* has in fact to be put together are those of the six *kārakas*, namely *kartṛ*, *karman*, *karaṇa*, *sampradāna*, *apādāna* and *adhikaraṇa*, defined by Pāṇini at 1.4.54: *savtantraḥ kartā*, “*kartṛ* is the independent one”; 1.4.49: *kartur īpsitatamaṃ karma*, “*karman* is that what the agent most seeks to obtain”; 1.4.24: *sādhakatamaṃ karaṇam*, “*karaṇa* is that what is the best means for accomplishing [an action] (i.e. the means of an action par excellence)”; 1.4.32: *karmaṇā yam abhipraiti sa sampradānam*, “*sampradāna* is he whom he (i.e. the agent) approaches (i.e. aims at) with the *karman*”; 1.4.24: *dhruvam apāye 'pādānam*, “*apādāna* is that what is firm when departure [takes place]”, and 1.4.45: *ādhāro 'dhikaraṇam*, “*adhikaraṇa* is a substratum”. They all are derived by adding certain primary suffixes either to the simple or compounded root *kṛ*, “to make” — just as their common designation *kāraka* is — or to the compounded root *dā*, “to give”. Their formation can be analyzed in the manner of the indigenous Indian grammarians and commentators as *karotīti kartā*, “*kartṛ* means ‘he who does’ ”; *kriyata iti karma* or *yat kriyate tat karma*, “*karman* means ‘that what is done’ ”; *kriyate 'neneti karaṇam*, “*karaṇa* means ‘that by which [something] is done’ ”; *sampradīyate 'smā iti sampradānam*, “*sampradāna* means ‘he whom [something] is wholly delivered over’ ”;

apādīyate 'smād ity apādānam, "*apādāna* means 'that from which [something] is taken away' ", and *adhikrīyate 'trety adhikaraṇam*, "*adhikaraṇa* means 'that on which [something] is placed' ". That is to say, the primary suffixes, added to form these nouns, *tṛc* (= *tṛ*) (3.1.133), *manin* (= *man*) (3.2.75) and *lyuṭ* (= *ana*) (3.3.117, cf. also 3.3.113), have precisely those functions which the respective resulting terms denote: *tṛc* (= *tṛ*) is added to *kṛ* to denote the *kartṛ*; *manin* (= *man*) is added to *kṛ* to denote the *karman*; and *lyuṭ* (= *ana*) is added to *kṛ* to denote the *karaṇa*, to *sam-pra-dā* to denote the *saṃpradāna*, to *apa- ā - dā* to denote the *apādāna* and to *adhi-kṛ* to denote the *adhikaraṇa*. *kartṛ* etc. are not simply assigned to a specific technical meaning, but are distinguished among all possible designations by the fact that they themselves are word formations that presuppose and at the same time illustrate the concepts they denote.

The reason for this deliberate choice cannot lie in any exigency of scientific grammatical terminology, nor can it be mere delight in symmetrical correspondences; it must consist in some of the ideas connected (not only in India) with names in general. These ideas have recently been dealt with and comprehensively expounded by J. GONDA[1] who states that the name is "no mere label or specification but widely believed to be naturally and indissolubly connected with its owner", that it is "loaded with power" and "expresses the very essence of its bearer". This last belief explains perfectly why the six *kārakas* were given those special names: *kartṛ* etc. must have been considered to be the "true" names because, by their own formation, they provided evidence of the existence of the concepts concerned, and because they revealed the nature and function of the entities "agent", "[direct] object" etc.. It is in the nature of things that this kind of name-giving is restricted to linguistic concepts. The lack of a completely analogical procedure elsewhere, therefore, does not cast doubt on our interpretation. The motives cannot be other than those pointed out, not only on account of the rich material disclosing the magico-religious convictions relating to names in ancient India, but also because Pāṇini himself is viewed by Patañjali as creating his work in the position and with the concentration of a Yogin, when he states that "the teacher as an authority, having sat down in a clean place, facing East, with *darbha*-grass in his hand, used to compose the sūtra with great effort" (Mahābhāṣya I 39.10 — 11: *pramāṇabhūta ācāryo darbhapavitrapāṇiḥ śucāv avakāśe prāṅmukha upaviśya mahatā yatnena sūtraṃ praṇayati sma*) — and there is every reason to believe that it was Pāṇini who detected the entities "agent" "[direct] object" etc. and gave them their respective names.

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[1] 'Notes on Names and the Name of God in Ancient India', Amsterdam 1970.

In his review of H. SCHARFE's dissertation 'Die Logik im Mahābhāṣya', Berlin 1961, in which this passage is quoted to demonstrate the magico-religious backgrounds of grammar in India, J. F. STAAL[1] criticises that "Western scholars sometimes tend to discern" such "backgrounds in everything Indian" and goes on to explain that the posture of Pāṇini described in the Mahābhāṣya "is a culturally determined phenomenon which can be compared with the fact that some Western professors put on their gown before they teach and interrupt their work at definite times to drink coffee or tea". This is rather an old way of handling the facts. The magico-religious background is not something imagined by eccentric Western scholars, ignorant of the world in general and elementary logic in particular, with whom it is a mania to discern this background "in everything Indian", but it is abundantly (or even excessive) attested to by almost all literary documents of ancient India and, likewise, by many of mediaeval India. When STAAL distrusts Patañjali and prefers to view Pāṇini as an Oxford professor, the *onus probandi* is on him. To furnish this proof, however, would be very difficult: who in the world would ever be, with regard to an Oxford professor's statement, of the opinion, that "not even a single sound can be without a [specific] purpose in it" (Mahābhāṣya I 39.11 — 12: *tatrāśakyaṃ varṇenāpy anarthakena bhavituṃ kim punar iyatā sūtreṇa*), merely because it was made when the professor had put on his gown or before he went to drink a cup of tea? If there is any cultural phenomenon in the West that can be compared with the way Pāṇini composed his Aṣṭādhyayī according to Patañjali, it is the way in which the Pope under the conditions of infallibility (= *pramāṇabhūta*) proclaims something *ex cathedra*.

Pāṇini's great achievements as an analytical grammarian and linguist are not diminished through the fact that he, like all his contemporaries, happened to be also deeply impressed by magico-religious ideas, no more so than the progress achieved in Western logic becomes less impressive because of the fact that some modern logicians have believed in Platonic ideas. The admiration Pāṇini commands will in no way suffer; it remains as great as before.

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[1] JAOS 83 (1963), p. 256.

ON THE AUTHORS OF THIS VOLUME

RUDOLF ALTEVOGT, born 1924 at Ladbergen. Dr. rer. nat. 1950, University of Münster. Professor of Zoology, University of Münster since 1962. Head of the Department of Physiology and Ecology since 1966. Vice President, International Biophonetic Union, 1967. UNESCO Chief Technical Adviser, 1972. Ordinary Member, Indian Statistical Institute, 1974. Author of about 75 articles in learned journals, encyclopedias and of scientific films. Founder-editor of "*forma et functio*", An International Journal of Functional Biology. Fields of specialization: animal ecology, physiology and behaviour, human biology, research films. Address: Fachbereich Biologie der Westfälischen Wilhelms-Universität, Badestr. 9, D-44 Münster, F.R. of Germany.

HERMANN BERGER, born 1926 in Kötzing. Dr. phil. 1953, University of Munich; "Habilitation" (Professoral Thesis) 1956, University of Munich. From 1957 to 1962 "Universitätsdozent" (Reader) at the University of Münster/Westphalia; till 1964 Visiting Professor at the Sanskrit College in Calcutta. Since 1964 Professor of Indology at the South-Asia Institute, University of Heidelberg. 1959 and 1961 field stays in the Hunza Karakorum. Author of *Zwei Probleme der Mittelindischen Lautlehre* (1955); *Das Yasin-Burushaski*, Pt. 1-3 (1974); *Mythology der Zigeuner* in: *Wörterbuch der Mythologie* (in press); *New Indo-Aryan Numerals* in: *The Indo-European Numerals* (in press); Editor, *Neuindische Studien* (1970). Fields of specialization: Sanskrit studies, Middle Indo-Aryan, Burushaski language, Gipsy language and mythology. Address: Südasien-Institut der Universitat Heidelberg, Im Neuenheimer Feld 330, 6900 Heidelberg, F.R. of Germany.

KLAUS BRUHN, born 1928 in Hamburg. Dr. phil. 1954, University of Hamburg. Professor of Indology, Freie Universität Berlin, since 1966. Author of *Śīlānka's Cauppaṇṇamahāpurisacariya* (1954); *The Jina Images of Deogarh* (1969). Co-editor, *Indologia Berolinensis*. Fields of specialization: Jaina literature (early period), Jaina art. Address: Institut für Indische Philologie und Kunstgeschichte, Walter-Linse-Str. 12, D-1000 Berlin 45, F.R. of Germany.

EBERHARD FISCHER, born 1941 in Berlin. M.A. and Dr. phil., University of Basel (Switzerland). 1965/66 at the National Institute of Design in Ahmedabad; 1968/70 Representative of the South-Asia Institute, University of Heidelberg, in New Delhi; since 1972 Director of the Rietberg Museum in Zurich. Author of several books on ethnography and African art. Co-author with HAKU SHAH (1970) *Rural Craftsmen and their work; equipment and techniques in the Mer village of Ratadi in Saurashtra*, NID, Ahmedabad; (1971) *Mogra dev, tribal crocodile gods*, Ahmedabad; (1972) *Kunsttraditionen in Nordindien*, Zurich; (1973) *Vetra ne khamba, memorials for the dead*, Ahmedabad; and several articles in Tribus, ZZE etc. (ethnographic journals). Co-author with ALFRED BÜHLER (1974) *Musterung von Stoffen mit Hilfe von Presschablonen*, Basel (English edition 1976 at Calico Museum of Textiles, Ahmedabad). Co-author with JYOTINDRA JAIN (1974) *Kunst und Religion in Indien*: 2 500 *Jahre Jainismus*, Zurich; (1976) *Iconography of the Jaina*, 2 vols., Leiden. Fields of specialization: Tribal art and folk art, technology of handicrafts, textile history, art and rituals. Address: Museum Rietberg, Gablerstr. 15, CHH 8002 Zurich (Switzerland).

GEBHARD FLATZ, born 1925 in Graz (Austria). Dr. med. 1953, University of Cologne. Medical and haematology research training in the U.S.A. from 1953 to 1959. 1960 to 1972 at the Department of Paediatrics (Kinderklinik), University of Bonn. 1962/63 research on haemoglobinopathies in Thailand. 1967 to 1970, Head of the Human Genetics Research Laboratory, University of Chiang Mai, Thailand. Since 1972 Head, Department of Genetics, Medizinische Hochschule, Hannover. 1971 research on haemoglobinopathies in Assam and Bihar. Fields of specialization: Population genetics of haemoglobinopathies, nutritional genetics, clinical genetics. Address: Institut für Genetik, Medizinische Hochschule Hannover, Postfach 610180, 3000 Hannover 61, F.R. of Germany.

HERBERT HÄRTEL, born 1921 in Hoyerswerda. Dr. phil. 1953, University of Göttingen. Curator, Indian Dept., Museum of Ethnology, Berlin 1953-1962; Director, Museum of Indian Art, Berlin since 1963; 1965 Professor of Indian Art at the Free University of Berlin; 1966-74, Head of the German excavations at Sonkh, Distr. Mathura, U.P. Corresponding Member, Academy of Sciences at Göttingen and German Archaeological Institute, Berlin. Hon. Member, Bharatiya Sanskrita Pariṣad, Lucknow, Author of *Karmavācanā* (1956), *Indische Skulpturen; I* (1960); *Indische und Zentralasiatische Wandmalereien* (1959); *Propyläen-Kunstgeschichte* Vol. 16 (1971) and of many articles. Fields of specialization: Indian art and archaeology, Buddhist Sanskrit texts, early Indian history. Address: Museum für Indische Kunst, Takustr. 40, 1000 Berlin 33, F.R. of Germany.

KARL HOFFMANN, born 1915 in Hof-am-Regen. Dr. phil. 1941, University of Munich. "Habilitation" (Professoral Thesis) 1951, University of Munich. 1952 Professor of Comparative Linguistics, University of Saarland. 1955 Professor of Comparative Indo-European Linguistics and Indo-Iranian Philology, University of Erlangen-Nürnberg. 1972 Member, Bavarian Academy of Sciences at Munich. Author of *Der Injunktiv im Veda* (1967). Since 1959 Co-editor of *Münchener Studien zur Sprachwissenschaft*. Fields of specialization: Indo-European morphology; philology and linguistics of the Vedic, Avestan and Old Persian languages. Address: Kleiststr.13, D-8520 Erlangen, F.R. of Germany.

HELMUT HUMBACH, born 1921 in Munich. Dr. phil. 1951, University of Munich. 1956-1961 Professor of Comparative Linguistics and Oriental Studies, University of Saarbrücken. Since 1961 Professor of Indo-European Philology, University of Mainz. Author of *Die Gathas des Zarathustra* (2 vols., 1959), *Die Kaniška-Inschrift* von Surkh-Kotal (1960); *Kušan und Hephthaliten* (1961); *Baktrische Sprachdenkmäler* (2 vols., 1966 f.); *Die aramäische Inschrift* von Taxila (1969); *Vaethā Nask* (1969, in cooperation with K. M. JAMASPASA; *Pursišnīhā* (2 vols., 1971, in cooperation with K. M. JAMASPASA; *Eine weitere aramäoiranische Inschrift der Periode des Aśoka aus Afghanistan* (1974, in cooperation with G. DJELANI DAVARY); *Die baktrische Inschrift IDN 1 von Dasht-e Nāwūr (Afghanistan)* (1976, in cooperation with G. DJELANI DAVARY). Fields of specialization: Zoroastrianism, Iranian, history of the relations between Iran and India, epigraphy. Address: Seminar für Vergleichende Sprachwissenschaft der Johannes Gutenberg Universität, Postfach 3980, 6500 Mainz, F.R. of Germany.

BERNHARD KÖLVER, born 1938 in Cologne. Dr. phil. 1964, University of Frankfurt; 1969 Reader in Indology, University of Cologne; 1976 Professor of Indology, University of Kiel. Resident Director, *Nepal-German Manuscript Preservation Project*, Kathmandu, 1970-72. Author of

Zum Gebrauch der sekundären Kasus im Tocharischen (1965); *Tulu Texts with Glossary* (1969); *Studien zur Rājataraṅgiṇī des Kalhaṇa* (1971); *Verschliffene Präfixe im Altindischen* (1976); *Ordered Space. Concepts and functions in a town of Nepal* (together with NIELS GUTSCHOW (1976); papers on various aspects of Vedic studies and on Newārī. Editor of HERMANN JACOBI: *Kleine Schriften*. Fields of specialization: Dharmaśastra, linguistics, Newārī language and literature, historical geography. Address: Seminar für Orientalistik, Abteilung für Indologie, Olshausenstr. 40-60, 2300 Kiel, F.R. of Germany.

HERMANN KULKE, born 1938 in Berlin. Dr. phil. 1967, University of Freiburg. D. Litt. (Habilitation) 1975, University of Heidelberg. Reader (Dozent) of South Asian History at the South-Asia Institute of the University of Heidelberg. Author of *Cidambaramāhātmya* (an analysis of a South Indian temple tradition, 1970); *Jagannātha cult and Gajapati kingship, a contribution to the history of religious legitimation of Indian kingship* (German, in print). Editor of HERMANN GOETZ, *Studies in the History, Religion and Art of Classical and Mediaeval India* (1974); *Orissa. A Systematic Bibliography of an Indian State* (in print). Together with A. ESCHMANN and G. C. TRIPATHI, *The Cult of Jagannātha and the Formation of the Regional Tradition of Orissa* (in print). Fields of specialization: Medieval history of India, especially Orissa and South India, Cambodian Studies. Address: Südasien-Institut der Universitat Heidelberg, Im Neuenheimer Feld 330, 6900 Heidelberg, F.R. of Germany.

JÜRGEN LÜTT, born 1940 in Kiel. Dr. phil. 1968, University of Kiel. Senior research fellow of South Asian history, Department of History, South-Asia Institute, Heidelberg University, since 1968. 1970-1972. Representative of the South-Asia Institute in Delhi. Author of *Hindu Nationalismus in Uttar Pradeś* 1867-1900, Stuttgart 1970; *Religious Leadership in India: The Shankaracharyas* (article in press); study on *Malaviya and the Hindu Sabha Movement* (to be published in 1977). Fields of specialization: Modern Indian history, especially independence movement, modern Hinduism, comparative study of nationalism and modernisation. Address: Südasien-Institut der Universitat Heidelberg, Im Neuenheimer Feld 330, 6900 Heidelberg, F.R. of Germany.

GRITLI VON MITTERWALLNER, born 1925 in Friedrichshafen-Windhag. Dr. phil. 1963 in Art History, Indology and Archaeology, University of Munich. "Habilitation" (Professoral Thesis) in Indology 1971 at the same university. Teaching Indian Art and Archaeology in the Institute of Indology and Iranian Studies, University of Munich, since 1971. Author of *Chaul, eine unerforschte Stadt an der Westküste Indiens* (1964); *Die Hindu-Kultgottheiten Goas,* Vol. I: *Śiva, Devī, Skanda* (unpublished manuscript for Habilitation, 1970). Fields of specialization: Hindu, Buddhist and Jaina art of the Indian subcontinent, Indo-Portuguese art. Address: Hanfstaenglstr. 19, 8000 München 19, F.R. of Germany.

GERHARD NEUWEILER, born 1935 in Nagold. Studied Biology, Physics, Chemistry and Biochemistry at the Universities of Munich and Tübingen from 1955 to 1962. Dr. rer. nat. 1962, University of Tübingen, with a thesis on *Structure and function of the eye in Flying Foxes.* 1963/64 Government of India and DAAD scholar at the Department of Zoology, University of Madras. Observations on the social behaviour in Flying Foxes. 1964-1970 scientific assistant and lecturer at the Department of Zoophysiology, University of Tübingen. 1970 "Habitilation" (Professoral Thesis) on *Neurophysiological investigations in the auditory system of echolocating bats.* Since 1972 full Professor for Zoology at the J. W. Goethe-University in Frankfurt. Address: Fachbereich Biologie der J. W. Goethe-Universität, — Zoologie —, Siesmayerstr. 70, 6000 Frankfurt/Main, F.R. of Germany.

HANNS-PETER SCHMIDT, born 1930 in Berlin. Dr. phil. 1957, University of Hamburg. 1957-59 Research Fellow, Deccan College, Poona. 1959-61 Assistant Professor of Indo-Iranian Languages, University of Sagar (M.P.). 1961 Assistant, 1965 Reader (Dozent) of Indology, University of Tübingen. 1967 Assistant Professor, 1968 Associate Professor, since 1970 Professor of Indo-Iranian Studies, University of California, Los Angeles. 1974-76 Professor of Sanskrit, University of Leiden (Netherlands). Author of *Vedisch vratá und awestisch urvāta* (1958); *Bṛhaspati und Indra* (1968); *Zarathustra's Religion and His Pastoral Imagery* (1975). Fields of specialization: Literatures and religions of ancient India and Iran; Sanskrit, Avesta, Pahlavi. Address: Department of Near Eastern Languages and Cultures, University of California, Los Angeles, Cal. 90024, USA.

LAMBERT SCHMITHAUSEN, born 1939 in Cologne. Dr. phil. 1964, University of Vienna. 1970 Professor of Indian Studies, University of Münster. Since 1973 Professor (Buddhism and Tibetology), University of Hamburg. Author of *Maṇḍanamiśra's Vibhramavivekaḥ* (1965) and *Der Nirvāṇa-Abschnitt in der Viniścayasaṃgrahaṇī der Yogācārabhūmiḥ* (1969). Fields of specialization: Buddhist philosophy, esp. Yogācāra; Hindu philosophy, esp. Kashmir Śaivism and Kevalādvaita-Vedānta. Address: Seminar für Kultur und Geschichte Indiens der Universitat Hamburg, Rothenbaumchaussee 62, 2000 Hamburg 13, F.R. of Germany.

SIEGFRIED A. SCHULZ, born 1925 in Lengainen (East Prussia). Dr. phil., studied at Marburg and Berne Universities, Benares Hindu University. At present: Professor of German and Comparative Philology, The Catholic University of America, Washington D.C. Fields of specialization: German and historical linguistics, Indo Greek relations (*Galanos*, 1969; medieval Greek mysticism: *Hesychasm and Yoga*, 1977); Comparative literature (*Thomas Mann's Indian Legend "The Transposed Heads"*, 1963; *Prem Chand's "Godān", Echoes of Charles Dickens in an Indian Setting*, 1973; in progress: *A German translation of Prem Chand's Novel "Godān"*, 1977/78). Address: Department of Modern Languages and Literature, Catholic University of America, Washington D.C. 20064, USA.

GÜNTHER-DIETZ SONTHEIMER, born 1934 in Ulm a.D. 1953-1959 studies of law and indology (Prof. von Glasenapp) at Tübingen University. 1958 First Law State Examination. 1958-1961 studies at Poona Law College. Field research with Prof. D. D. KOSAMBI. 1961-1964 at School of Oriental and African Studies, London. 1962 Diploma in Law, Diss. *The Concept of Dāya*. 1964 Ph.D., Diss. *The Hindu Joint Family: its evolution as a legal institution* (Delhi, 1976). From 1965 at the South-Asia Institute, University of Heidelberg. 1967-72 several times in Maharashtra etc.: field research on pastoral communities and their cults. 1974 "Habilitation" (Professoral Thesis) on *Birobā, Khaṇḍobā und Mhaskobā: Ursprung, Geschichte und Umwelt von pastoralen Gottheiten in Maharashtra* (Wiesbaden, 1976). 1973-74 Representative in India, South-Asia Institute. Since 1974 Head of the Department of History of Religion and Philosophy, South-Asia Institute, University of Heidelberg. Fields of specialization: Dharmaśāstra, history of religion in South Asia, Marathi. Address: Südasien-Institut der Universität Heildelberg, Im Neuenheimer Feld 330, 6900 Heidelberg, F.R. of Germany.

VALENTINA STACHE-ROSEN, born 1925 in Copenhagen. Studied Chinese, Sanskrit and Archaeology at Göttingen and London. Dr. phil., 1954, University of Göttingen. Author of *Der Vinayavibhāṅga zum Bhikṣuprātimokṣa der Sarvāstivādins, Sanskritfragmente nebst einer Analyse der chinesischen Übersetung*, Sanskrittexte aus den Turfanfunden II, Berlin 1959; *Dogmatische Begriffsreihen im älteren Buddhismus II, Das Saṅgītisūtra und* sein Kommentar Saṅgītiparyāya, 2 vols., Sanskrittexte aus den Turfanfunden IX, Berlin 1968; *Gunavarman, A Comparative Analysis of the Biographies found in the Chinese Tripitaka*, Bulletin of Tibetology Vol. X, No. 1, March 1973, Gangtok; *Das Upālipariprcchāsūtra, ein Text zur buddhistischen Ordensdisziplin*, Abhandlungen der Akademie der Wissenschaften, Göttingen (in preparation). Fields of specialization: Early Buddhist Sanskrit and Chinese texts, esp. from the Turfan Collection; South Asian shadow theatre, history of Indian studies in Germany. Address: c/o Max Müller Bhavan, 12 Museum Road, Bangalore 560001, India.

HEINRICH VON STIETENCRON, born 1933 in Ronco, Switzerland. Dr. phil. 1965, University of Munich. 1970-73 Head of the Department of Religion and Philosophy, South-Asia Institute, University of Heildelberg. Since 1973 Professor and Head of the Department of Indology and Comparative Religion, University of Tübingen. Author of *Indische Sonnenpriester: Sāmba und die Śākadvīpīya Brāhmaṇa*, Wiesbaden 1966; *Suicide as a Religious Institution*, Bhāratīya Vidyā Vol. XXVII, Nos. 1-4, 1967 (issued 1969), p. 7-24; *Bhairava*, Zeitschrift der Deutschen Morgenländischen Gesellschaft 1969, Suppl. I/3, p. 863-871, ; *Daṇḍanāyaka und Piṅgala*, Indo-Iranian Journal Vol. XIII, No. 1, 1971, p. 1-19; *Gaṅga und Yamunā*, Wiesbaden 1971; *Bemerkungen zur Gaṅgādhara mūrti des Śiva*. Indologen-Tagung 1971, ed. Wiesbaden 1973, p. 273-282; *Der Name Gottes*, Düsseldorf 1975. Further articles on religion, history and art in various research journals. Fields of specialization: Hindu religion and philosophy, Hindu iconography, Purāṇa and Tantra literature. Address: Seminar für Indologie und vergleichende Religionswissenschaft, Münzgasse 30, 7400 Tübingen, F.R. of Germany.

HARALD UHLIG, born 1922 in Dresden. Dr. phil. 1950, University of Heidelberg. Professor of Geography, University of Giessen, since 1960. Member, Scientific Committee on Geography, Pacific Science Organisation.

President (1973-1975), Zentralverband der Deutschen Geographen (Association of German Geographers). Chairman, International Working Group for the Terminology of the Agricultural Landscape. Author of various papers (in German) on Kashmir and on types of rice- and hill-farmers, nomades etc. in the Himalayas and South East Asia; *Der indische Subkontinent—Land und Wirtschaft* (Informationen zur Politischen Bildung, 1966); *Südostasien - Austral-Pazifischer Raum* (Fischer Länderkunde, 1975); *Hill-tribes and rice-farmers in the Himalayas and South-East Asia* (in: Transact: and Papers, Inst. of British Geographers, 1969); co-author and co-editor: *Vergleichende Kulturgeographie der Hochgebirge des südlichen Asien* (together with C. RATHJENS and C. TROLL, 1973); editor and co-author: *Südasien* (*Der indische Subkontinent*), (Fischer Länderkunde, in print, 1977). Fields of specialization: Cultural geograpy, regional geography of South and South East Asia and of high mountain regions. Address: Geographisches Institut der Universität, Landgraf Philipp-Platz 2, D-6300 Giessen, F.R. of Germany.

CLAUS VOGEL, born 1933 in Saarbrücken. Dr. phil., 1956, University of Marburg. 1957-59 Government of India Research Scholar, Deccan College, Poona. 1969-76 Professor of Indian and Tibetan Philology, University of Marburg. Since 1976 Professor of Indology, University of Bonn. 1962, Member, German Oriental Society. 1964, Fellow, Royal Asiatic Society of Great Britain and Ireland. Author of *Temples of Amorous Pleasure* (1962); *Vāgbhaṭa's Aṣṭāṅgahṛdayasaṃhitā. The first five chapters of its Tibetan version* (1965); *Surūpa's Kāmaśāstra. An erotic treatise in the Tibetan Tanjur* (1965); *The Teachings of the Six Heretics* (1970); *Śrīdharasena's Viśvalocana. Ein Jaina-Wörterbuch des Sanskrit im lamaistischen Kanon* (1976), and numerous articles. Editor of *Jñānamuktāvalī. Commemoration volume in honour of Johannes Nobel* (1959) and *Theodor Zachariae. Opera Minora* (1976). Fields of specialization: Kāvya and Koṣa literature, Āyurveda, chronology, Buddhism, Tibetan studies. Address: Indologisches Seminar der Universität, Regina-Pacis-Weg 7, 5300 Bonn-1, F.R. of Germany.

STEFAN WELLERSHAUS, born 1932 in Hamburg. Dr. rer. nat. 1964, University of Kiel. Scientist for marine biology at the Institut für Meeresforschung — Institute for Marine Research — in Bremerhaven since 1962. 1965/66 research on plankton productivity in the Cochin Backwater. Author of several scientific publications on *hydrography and plankton in the Cochin Backwater*, on *marine technology*, on *particulate matter in the water* and on *hydrography and pollution in the Weser estuary*. Fields of specialization: hydrography, plankton, detritus and pollution in estuaries; bottom water in the sea; planktonic copepoda and crab larvae. Address: Institut für Meeresforschung, Am Handelshafen 12, 2850 Bremerhaven, F.R. of Germany.

ALBRECHT WEZLER, born 1938 in Munich. Dr. phil. 1965, University of Tübingen. Professor of Indology, University of Hamburg, since 1972. Author of *Paribhāṣā IV, V und V. Untersuchungen zur Geschichte der einheimischen indischen grammatischen Scholastik* (1969); *Bestimmung und Angabe der Funktion von Sekundär-Suffixen durch Pāṇini* (1975). Editor, L. ALSDORF, *Kleine Schriften* (1974). Co-editor of the new journal *Studien zur Indologie und Iranistik* (Hft. 1, 1975). Fields of specialization: Indigenous Indian grammar and linguistics, Indian philosophy. Address: Seminar für Kultur und Geschichte Indiens der Universität, Rothenbaumchaussee 62, 2000 Hamburg 13, F.R. of Germany.

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